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ABSTRACT

In 1981, a study was conducted to investigate the academic performance and persistence patterns of developmental students who matriculated at Harrisburg Area Community College (HACC) between 1977 and 1979. Specifically, the study sought to determine the proportion of developmental students who successfully completed developmental and subsequent college-level courses; differences in the characteristics of course completers and non-completers; the relationship of reading level to course completion; grade and credit distributions; persistence rates; and reasons for persisting or dropping out. Data were gathered from the computer-searchable records of 164 developmental students, questionnaires completed by 47 of these students, and interviews conducted with 18 students. The study revealed that: (1) only 28% of the 164 students completed the developmental sequence of reading, English, and mathematics courses; (2) of those who did complete the sequence, 43% later completed both a college-level English and math course; (3) first semester grade point average was found to be a good predictor of success in completing the developmental sequence; and (4) by spring 1981, only 4 of the 164 students had attained a degree. The study report reviews the literature on future trends in underprepared student enrollments, developmental program evaluation, student satisfaction, and reading ability and achievement. Appendices provide various HACC policy statements and the questionnaire. (DAB)

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ED229086

UNIVERSITY OF PENNSYLVANIA

THE GRADUATE SCHOOL OF EDUCATION

THE ACADEMIC PERFORMANCE AND PERSISTENCE PATTERN OF A SELECT GROUP OF DEVELOPMENTAL STUDENTS AT HARRISBURG AREA COMMUNITY COLLEGE

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Submitted in partial fulfillment of
the requirements for the degree of
Doctor of Education

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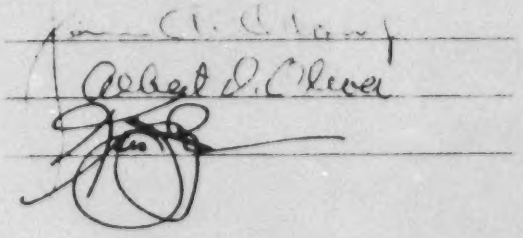

JC 830 201

D E D I C A T I O N

STEPHEN BASONIC

My husband,
for his encouragement
and support

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Deepest appreciation goes to the following:

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...Dr. Albert Oliver, Committee member
...Dr. James A. Odom, Jr., President, Harrisburg Area Community College, Committee member
...Dr. Jay F. Ebersole, Dean of Student Services, Harrisburg Area Community College
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CHAPTER 1

NATURE OF THE PROBLEM

Introduction

Harrisburg Area Community College, a comprehensive two-year public institution, was established in 1964. The College has an "equal access" philosophy and therefore has an open admissions policy. Among the students admitted are those who lack proficiency in basic skills. These students are placed by counselors using test scores into courses where evidence indicates they have a reasonable chance for success. These students are referred to as "developmental students." The 1981-82 College Catalog contains a definition of the developmental program.

> The developmental/preparatory program is designed for those students whose previous academic record indicated insufficient academic preparation, those who have not as yet developed the skills necessary for specific college courses, and/or those who need to upgrade skills previously obtained. Students who achieve a satisfactory level of skill development in developmental/preparatory courses can increase potential for continued academic progress.[1]

Harrisburg Area Community College espouses an egalitarian philosophy and therefore admits high school graduates, recipients of the General Educational Diploma, and others over 18 years of age who, the College believes, will profit from instruction. To meet the educational needs of those students who have academic deficiencies, the College offers developmental courses in reading, English, mathematics and biology.

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[1] Harrisburg Area Community College Catalog, 1981-82, p. 37.

Although the number of students enrolled in developmental courses has increased from one hundred fifty-seven students in 1965/66 to one thousand fifty-seven in the fall semester of the 1980/81 academic year (Appendix B), there has not been any systematic investigation of this group since Snyder and Blocker (1970) conducted research into the achievement and persistence of the developmental students over ten years ago. Snyder and Blocker found that nearly one-third of the developmental matriculants in 1966 and 1967 earned the Associate degree and that the developmental program at that time appeared to be successful.

In 1970, when Snyder and Blocker conducted their research, students who enrolled for two or more developmental courses (6 credit hours) were admitted into the developmental curriculum. In 1973, the faculty argued that the developmental curriculum designation was inappropriate because the curriculum did not lead to a degree. They also argued that a stigma was attached to students enrolled in the curriculum. In response to the request of the faculty, the College dropped the developmental curriculum designation. At the present time, the developmental program consists of developmental courses offered by the appropriate academic divisions and support services such as a learning laboratory, tutoring and counseling services. Currently, the administration of Harrisburg Area Community College is planning a comprehensive Basic Studies Program. The Basic Studies Program proposal suggests that a centrally controlled and coordinated program concerned with both the academic and personal development of the developmental students be developed.

During the fall semester of the 1979/80 academic year, there were eight hundred fifty students enrolled in one or more developmental

courses. This enrollment included part-time, full-time, degree-seeking and non-degree students. The students ranged from high-ability students needing one developmental mathematics course to high-risk, low-ability students needing developmental work in reading, grammar and mathematics.

Faculty members and counselors who work closely with the students needing developmental work in reading, English and mathematics are concerned with the lack of knowledge of the progress of these students. Although this select group of developmental students who lack proficiency in reading, English and mathematics define themselves as degree-seeking at time of entry into the College, of the forty-five who matriculated in 1977/78 academic year, three earned a degree as of May, 1980. One of the fifty-one students in this category who matriculated in 1978/79 completed the requirements for a degree.

Significance

In fall semester of academic year 1980/81, nineteen percent of the student body of 5,500 at Harrisburg Area Community College were enrolled in developmental courses. This represents a 46 percent increase over a ten year period. Cross (1980), Winn (1980), and Roueche (1977) project that colleges may expect even larger numbers of developmental students in the 1980's.

Even though the College is already experiencing an increase in the number of students enrolled in developmental courses (Appendices B and C), the College has not investigated outcomes of the program since Snyder and Blocker (1970) conducted research into the achievement and persistence of developmental students. Snyder and Blocker investigated the relationship between the academic performance and background

characteristics of students enrolled in the developmental curriculum. Background characteristics used were high school curriculum, high school rank, scores from the American College Testing Program, and curriculum after leaving the developmental curriculum. They found a positive relationship between high school rank in class and earning the Associate degree. The developmental students studied were more successful in earning degrees from programs designed for transfer to four-year institutions than from programs designed for direct entry into the job market. Overall, 27 percent of the students earned the Associate degree. Snyder and Blocker concluded that the developmental program at that time appeared to be successful.

Alfreda A. Johnson (1976), in a doctoral research project that was conducted to develop and implement an admissions testing program at the College, found that the College had "attempted various methods to help provide remediation, but considerable uncertainty still remains as to the validity of the outcomes."[2]

Hill (1978), discussing the effectiveness of developmental education, stated that

> The strength of the community colleges has been their ability to respond to state and local needs for new programs relatively quickly and without the infusion of new special funds. Their weakness has been their inability to evaluate their success with successive groups of new students.[3]

Berg and Axtell (1968), describing the developmental programs in the California Community College System, commented that

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[2]Alfreda A. Johnson, "A Plan for the Identification and Placement of Students Needing Remedial English Instruction," (Unpublished Doctoral dissertation, Nova University, 1976), p. 16.

[3]Andrew Hill, "Developmental Education: Does it Work?" Community College Review, Vol. 6, No. 2 (Fall, 1978), p. 43.

> (1) Very little evaluative research has been conducted to assess the effectiveness of such courses or programs with respect to increasing the achievement of disadvantaged students.
>
> (2) In the absence of evaluative research by the colleges, it is impossible at this time to identify programs that are effective in increasing the achievement of disadvantaged students.[4]

Ferrin (1971) examined the extent and nature of developmental programs in 137 Midwestern community colleges. Of all colleges surveyed with programs three years and older, 58 percent reported that they conducted informal evaluations, 42 percent conducted formal follow-ups, and 8 percent conducted experimental research studies.

In 1973, Roueche and Snow, Overcoming Learning Problems, found that "evaluation of remedial courses and programs was still practically nonexistent."[5]

By 1977, Spann found that "although the assessment of developmental programs at the college level has long been poor, incidences of strong evaluation are presently surfacing."[6]

Although Spann (1977) was optimistic about evaluation, Maxwell (1979) stated that

> It seems that once a (developmental) program is installed at the college level, it becomes sufficient unto itself, or "functionally autonomous"; and it is unlikely that any formal

---

[4]Ernest H. Berg and D. Axtell, Programs for the Disadvantaged in the California Community Colleges (Oakland: Peralta Junior College District, 1968), p. 75.

[5]J. E. Roueche and J. J. Snow, Overcoming Learning Problems (San Francisco: Jossey-Bass, 1978), p. 10.

[6]Milton G. Spann, "Building a Developmental Education Program," New Directions in Higher Education, No. 20 (Winter, 1977), p. 36.

> effort will occur to gather evidence concerning the need for program modification or continuation.[7]

Trillin (1980), agreeing with Maxwell (1979), reported:

> In an age of shrinking budgets and growing demands for accountability, the evaluation of academic programs hardly requires justification. However, the need for evaluation is particularly acute in college remedial programs. . . . Relatively few remedial programs have been carefully evaluated.[8]

In addition to the lack of developmental program evaluation both nationally and at Harrisburg Area Community College, the lack of a precise definition of "developmental program" and "developmental student" makes it difficult to assess one program's effectiveness in relation to others.

The counseling staff at the College is particularly interested in the group of developmental students who define themselves as degree-seeking and are enrolled initially for three or more developmental courses. At the time of initial enrollment, students are assigned to faculty advisors in the curricular areas. Unless a student enrolls in the Liberal Studies curriculum or participates in the Act 101 Program, the counselors lose contact with these developmental students. The counseling staff and other concerned faculty want to know what happens to this particular group of developmental students after the initial enrollment. The counselors and faculty want to know if the students achieved a level of proficiency necessary to complete college-level courses or if the "open door" was in reality a "revolving door."

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[7]Martha Maxwell, Improving Student Learning Skills (San Francisco: Jossey-Bass, 1975), p. 444.

[8]Alice S. Trillin and others, Teaching Basic Skills in College (San Francisco: Jossey-Bass, 1980), p. 262.

When Snyder and Blocker investigated the academic background of four hundred fifty-six developmental students at Harrisburg Area Community College in 1970, they noted that the sample group contained relatively few students with severe academic disadvantages as measured by high school records and ACT scores. They expressed a concern that if the situation should change, the College should reconsider the implications for educational objectives, programs, and services of the College.[9] Greater numbers of the academically disadvantaged are enrolled (Appendices B and C). High school records and placement test scores indicate that many of these students have severe academic deficiencies, but the program has not been changed to any great extent. In a report to the Vice-President of Educational Services, the Committee on the Developmental Program stated:

> The present developmental program began in 1965 and with certain modifications, especially in the areas of counseling and subject matter clinics, has remained virtually unchanged over the years.[10]

The current administration at the College, recognizing that increasing numbers of developmental students are enrolling, is planning to revise the developmental program. According to a May, 1980, proposal for a Basic Studies Program, the College is planning a centrally controlled, comprehensive program. The 1980 proposal is a plan to change the administrative structure of the developmental program. The College is also considering a change in the educational structure of the

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[9] F. A. Snyder and C. E. Blocker, "Persistence of Developmental Students," (Harrisburg Area Community College, 1970), p. 9.

[10] Report to James A. Odom, Jr., Vice President of Educational Services from Ad Hoc Committee on the Developmental Program, 7/28/76.

program. As the College plans to accommodate the increasing numbers of developmental students, it is important that the planners know what behaviors presently exist.

Although the College is philosophically committed to the "open door" concept and to providing services for the increasing numbers of developmental students, the State Legislature and several of the sponsoring school districts are considering limiting the number of full-time enrollments (FTE's) they will support. If the taxpaying public and elected officials do press for action which limits the number of FTE's they will support, then the College will be faced with the difficult task of deciding who will be admitted to the College, a decision which is counter to the "open door" philosophy. As a consequence, the College will need empirical data to determine the type of student who will be admitted and who is most likely to successfully complete the courses. This study will provide a basis for the data collection necessary to make these determinations.

This study will provide (1) the Developmental Program planners with information on the persistence and academic performance pattern of a select group of developmental students; (2) the counseling staff with data that will be useful during the initial enrollment of the developmental student; (3) the Faculty Council with data that will be helpful when the Basic Studies Program proposal is presented for action; and (4) the College with a data base for further research.

Statement of the Problem

The purpose of this study is to describe the academic performance and the pattern of persistence of a select group of developmental

students who matriculated at Harrisburg Area Community College in the academic years of 1977/78, 1978/79, and 1979/80. More specifically, answers to the following questions are sought:

1. What is the performance pattern of these developmental students?

    a. What proportion of the developmental students successfully complete the developmental courses?

    b. What proportion of the developmental students complete subsequent college-level English and mathematics courses?

    c. What differences exist between the characteristics of the students who complete the developmental courses and those who do not?

    d. Does the reading grade level at time of entry have a relationship to successful completion of developmental courses?

    e. What is the grade distribution for each of the English and mathematics courses taken by these developmental students?

    f. What is the distribution of total number of credits attempted, total number of credits earned and cumulative grade point averages among these students? What is the distribution at the end of first semester and at the end of the last semester attended?

2. What is the persistence pattern of these developmental students?

    a. Are there specific semesters in the program when students are more prone to drop out?

    b. What proportion of the students are still enrolled as of May, 1981?

    c. What reasons do students give for leaving?

    d. What reasons do students give for staying?

Details of the methodology used to answer these questions are given in Chapter 3.

Definition of Terms

The following terms which are used in this study may be defined differently at different institutions. The definitions of these terms are presented below.

Act 101:

> A Pennsylvania state funded program for full-time college students who demonstrate economic and academic need. The program is designed to serve highly motivated students who show the potential to succeed in college with adequate support (counseling, tutoring, and cultural activities).

Basic Studies Program:

> A centrally controlled and coordinated program concerned with the academic and personal development of students who lack proficiency in reading, English and/or mathematics.

College-Level Courses:

> Any Harrisburg Area Community College course with a number designation of 100 or above.

English 001--Reading: Vocabulary, Comprehension, and Speed:

> An individually prescribed course in reading improvement open to all students. While comprehension skills are emphasized for most students, the course is also intended to serve those students who need to improve their reading vocabulary and reading speed.[11]

English 051--English essentials:

> Basic grammar and usage skills, development of outlines, paragraphs, and a few short themes. (A "C" grade in this course qualifies the student for English 101.)[12]

Financial Holds:

> Students who incur a debt with the Business Office and do not pay the debt by the end of the semester in which the debt was incurred may not register for the ensuing semester.

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[11] Harrisburg Area Community College Catalog, Op. cit., p. 127.

[12] Ibid.

Liberal Studies Curriculum:

A curriculum designed for students who do not have a definite career choice or those who may be pursuing career objectives that require interdisciplinary study.

Open Door:

The College Catalog states that "the College is an open admissions institution. . . . Admission is granted to graduates of secondary schools, to recipients of a high school diploma, and to others who are 18 years of age and older, or who by policy in the judgment of the College are likely to benefit from a college experience."[13]

Zero-Level Math Courses:

Courses described in the College Catalog as basic arithmetic and as equivalent to high school Algebra I and II.

Limitations

1. The study includes a specific group of students at a specific institution and may be of importance only to Harrisburg Area Community College.

2. The study cannot be generalized to other institutions.

3. The study includes only those developmental students who matriculated in academic years 1977/78, 1978/79 and 1979/80. The developmental students enrolled in these years may not be representative of developmental students matriculating in other years.

4. The study excludes non-degree, part-time developmental students for purposes of homogeneity. Non-degree, part-time developmental students may be different and perform differently than full-time, degree-seeking students.

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[13]Ibid., p. 16.

CHAPTER 2

REVIEW OF LITERATURE

Introduction

Developmental education is not new to American education. In 1894 Wellesley College offered the first remedial course. That course appears to have established the idea that colleges bear some responsibility to remediate the academic deficiencies of their students. The early developmental courses emphasized study habits. By the early 1940's, colleges which had how-to-study courses found it necessary to introduce remedial reading projects into the courses.[14]

During the 1960's, there was an unprecedented growth in college enrollments. Government funding practices and political pressures were aimed at increasing college access to a diverse group of students. Most community colleges and many public four-year colleges adopted an open-admissions concept to accommodate these students. Many private colleges increased the number of students who were admitted through their special-admissions programs. Some of the students who entered higher education through the "equal access" model of admissions were academically underprepared for college-level work. As greater numbers of these underprepared students entered college through the "open door" and the special-admissions programs, the how-to-study and reading remediation

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[14] K. Patricia Cross, Accent on Learning (San Francisco: Jossey-Bass, 1977), p. 24.

courses were expanded into developmental courses and programs. By 1968, most community colleges had developed courses and programs for the students with academic difficulties.[15] By 1976, Roueche and Snow, in a study of a representative national sample of 150 public two-year and 150 four-year colleges, found that 86 percent of the colleges provided special services for the academically disadvantaged student. Specifically 95 percent of the community colleges and 77 percent of the four-year colleges were providing special services.[16]

Future Trends

Predictions for the 1980's indicate that colleges may continue to expect even larger numbers of under-prepared students who will need special services. John E. Roueche (1977), discussing college enrollments, commented:

> More and more students are entering college without the verbal and quantitative skills needed to enroll in regular college courses.[17]

> The result of the student supply-demand situation in the 1980's is that colleges, to survive, will be admitting more and more students who clearly are not academically prepared for college.[18]

K. Patricia Cross, discussing the rising proportions of new student clientele at open-door commuter colleges, stated that:

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[15] Roueche and Snow, Op. cit., p. 4.

[16] Ibid., p. 19.

[17] John E. Roueche (ed.), New Directions for Higher Education: Increasing Basic Skills by Developmental Studies, No. 20 (Winter, 1977), p. vii.

[18] Ibid., p. 93.

> They (the new students) are those who are educationally disadvantaged in the sense that they need help with basic skills, motivation, and guidance on how to make it in the educational system. They consist of rising proportions of ethnic minorities, low income students, low academic achievers.[19]

Winn (1980) called on colleges to open their doors even wider than in the past to those sectors of society that are "generally economically deprived, disadvantaged, lacking in basic skills and possibly disabled--those who do not measure up to traditional university standards."[20]

Debating the issues of college attrition and transfer rates, John E. Roueche stated that

> Colleges and universities across the nation are swamped with thousands of would-be college freshmen who are not prepared with the basic academic skills they need to pursue freshman level work.[21]

He stated that the problem is a national catastrophe which plagues not only community colleges, but also selective institutions. Roueche reported that

> Some of the most prestigious schools in America have now established remedial and developmental studies programs. At Berkley, Stanford, Ohio State and Texas, entering freshmen are assigned to remedial courses in unprecedented numbers.[22]

Currently, the issue of college students being unprepared for

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[19]Patricia Cross, "Our Changing Students and Their Impact on Colleges: Prospects for a True Learning Society," Phi Delta Kappan, Vol. 61, No. 9 (May, 1980), p. 677.

[20]Ira Jay Winn, "Turning the Screw: Higher Education in the 1980's and 1990's," Phi Delta Kappan, Vol. 61, No. 10 (June, 1980), p. 686.

[21]John E. Roueche, "Don't Close the Door," Community and Junior College Journal, Vol. 52, No. 4, December/January, 1981-82, p. 17.

[22]Ibid.

college level work is being alluded to in articles about colleges and universities setting higher admissions standards. In a recent issue of Kappan, Jack McCurdy, former education editor of the Los Angeles Times, stated that the inability of students to do college level work has prompted many institutions to tighten admissions standards. He noted that the new admissions requirements grew out of mounting concern of faculty over the lack of preparation of incoming students. He stated that each year more students are entering higher education less well prepared and with lower test scores than in the past.[23]

Program at Harrisburg Area Community College

Harrisburg Area Community College was accepted by the Commonwealth of Pennsylvania as an approved institution of higher education on October 14, 1964. The first college catalog was published in January, 1965. A developmental program or special services for under-prepared students were not listed in the first catalog. The 1966/67 catalog states that:

> The Developmental Program offers the courses which the applicant must complete successfully before he qualifies for admission to either the Career Program or the College Transfer Program. An applicant may register for this program if he lacks two or more courses necessary for admission to the curriculum that he plans ultimately to enter. An applicant whose academic record and standardized test scores in high school indicate low achievement may also register for developmental courses.
>
> By this program, the Harrisburg Area Community College seeks to provide for applicants the opportunity to develop their academic proficiency and their techniques of study to the extent that they qualify for admission to either the

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[23]Jack McCurdy, "Sending the Message: New Admissions Standards for a New Decade," Phi Delta Kappan, Vol. 63, No. 8 (April, 1982), p. 549.

College Career Program or the College Transfer Program. If the applicant fails to qualify for entrance into the curriculum of his choice, he ceases to be an applicant for admission to Harrisburg Area Community College.[24]

The model for the above Developmental Program is described by Blocker, Plummer, Richardson (1965).[25] The program continued with little change until 1973 when, at the request of the faculty who responded to changing student attitudes about labels, the College dropped the Developmental curriculum designation. Once the Developmental curriculum was dropped, students needing developmental work were admitted directly into the career or transfer program of their choice, excluding the Allied Health curricula.

By 1976, a committee of faculty submitted a report to the president of the College recommending that the College develop a comprehensive developmental program.[26] No action has yet resulted from that proposal. According to a May, 1980, proposal for a Basic Studies Program, the College is planning to establish a centrally controlled, comprehensive program to accommodate the increasing numbers of students who lack basic skills. The number of students taking developmental courses at Harrisburg Area Community College has increased from one hundred fifty-seven in 1965/66 to one thousand fifty seven in the fall semester of academic year 1980/81 (Appendix B).

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[24] Harrisburg Area Community College Catalog, 1966/67, p. 66.

[25] C. E. Blocker and others, The Two-Year College: A Social Synthesis (New Jersey: Prentice-Hall, 1965), pp. 221-24.

[26] Report to James A. Odom, Jr., Vice President of Educational Services from Ad Hoc Committee on the Developmental Program, 7/28/76.

Program Evaluation

Researchers agree that the developmental student population is growing and that colleges are developing programs to attempt to serve the students; however, Berg and Axtell (1968), Ferrin (1971), Roueche and Snow (1973), Spann (1977), Hill (1978), Maxwell (1979) and Trillin (1980) agree that few developmental and/or remedial programs have been carefully evaluated.

The major research in the field (Ferrin, 1971; Cross, 1977; Roueche and Snow, 1978) consists of descriptions of programs and services.

Ferrin (1971) examined the extent and nature of developmental programs in 180 Midwestern community colleges. Based on a 76 percent response rate, Ferrin found that of the 34,900 enrollees of the 1969 fall semester who were involved in developmental course work, 14 percent were still in the developmental programs at the end of fall, 1970; 47 percent of the students entered a regular college program; 12 percent left the colleges because of a definite job opportunity; 11 percent left because of lack of interest; 9 percent left because of lack of academic progress and 6 percent left primarily because of financial problems. Ferrin concluded that caution must be exercised in interpreting such data because:

> (1) The actual situations are undoubtedly far more complex than these discrete categories imply, and
>
> (2) Less than half the colleges indicated they have undertaken formal follow-up studies of their developmental students. In fact, 38 percent

indicated they did not even conduct an informal follow-up.[27]

Cross (1977) reported on the results of a remedial or developmental services questionnaire which was mailed in October, 1974, to a 20 percent random sample of two-year colleges listed in the 1973 Community and Junior College Directory. Responses were received from one hundred eighty-four colleges for an 84 percent return. The 1974 questionnaire was a repeat of a questionnaire mailed to a 20 percent random sample of two-year colleges in 1970. The survey emphasized the services provided by the respondents. One of the findings, however, deals with student progress. The proportion of students enrolled in remedial courses who later entered regular college courses was as follows:

PROPORTION OF INSTITUTIONS WHO RESPONDED TO QUESTIONNAIRE		REPORTED PROPORTION OF DEVELOPMENTAL STUDENTS AT RESPONDING INSTITUTIONS WHO ENTERED REGULAR COLLEGE COURSES
1970	1974	
11%	9%	Less than 10%
11%	10%	Between 10 and 25%
12%	13%	Between 25 and 50%
45%	51%	More than half
18%	12%	Don't know[28]

Although approximately one-half of the institutions stated that more than one-half of the remedial students entered regular college courses, there is no indication that the students completed the college

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[27]Richard I. Ferrin, Developmental Programs in Midwestern Colleges (Evanston, Illinois: College Entrance Examination Board, 1971), p. 14.

[28]Cross, Op. cit., p. 236.

courses.

Roueche and Snow (1978) conducted a national survey of 139 community colleges and 134 senior colleges. Of the community college respondents, 84.9 percent reported that they had an evaluation system of their developmental program. Forty-one percent of the colleges which had an evaluation system reported that more than 80 percent of their developmental students completed the program; 44.9 percent reported that more than 70 percent of their developmental students persisted to the second semester; 10.1 percent of the colleges reported that 70 percent of their developmental students persisted to the third semester; and, 12 percent of the colleges reported that more than 70 percent of the students received a degree. The "no response" rates on the items were 23 percent for developmental program completers, 27.3 percent for second semester persisters, 36.7 percent for third semester persisters, and 45.3 percent for degree receivers. This type of response leads one to believe that the progress of the students was not closely monitored after the first year.[29]

Other literature primarily consists of studies which provide data for a one-semester or one-year treatment. However, Snyder and Blocker (1970), Roueche and Kirk (1974), Rank (1979) and Tudor, Cohen and Schaier (1977) have completed longitudinal studies. Snyder and Blocker (1970) measured the extent of academic achievement and persistence of four hundred fifty-six developmental students who matriculated at Harrisburg Area Community College from 1965 through 1967. They also identified factors which appeared to be related to the students' academic

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[29]Roueche and Snow, Op. cit., p. 150.

success or failure. During their initial term, the students earned a mean grade point average of 2.12 on a 4.00 scale. The mean grade point average dropped from 2.12 at the end of the first term to 1.64 at the end of two terms. The mean cumulative grade point average rose from the two-term level of 1.64 to a final grade point average of 1.78. Overall, 27 percent of the four hundred fifty-six students completed the Associate degree requirements.

Snyder and Blocker found that between 33 percent and 40 percent of the students, depending upon the year matriculated (1965-67), did not return for a second semester's work. Of those students who did not earn a degree, 77.2 percent had a cumulative grade point average of less than 2.0. The average number of credits earned for all students was 40 credit hours. Based upon the fact that nearly one-third of the matriculants earned the Associate degree, Snyder and Blocker concluded that the developmental program appeared to be successful. The 33 percent graduation rate of the developmental students compared well, at that time, with the graduation rates at Harrisburg Area Community College and at other "open-door" institutions across the country.

Snyder and Blocker used number of credits earned, grade point average and receipt of an Associate degree as criteria of achievement and persistence.

Roueche and Kirk (1974), in a comprehensive, longitudinal study, measured (1) academic performance by mean grade point average, (2) persistence by completion of semesters, and (3) students' attitudes toward degree of satisfaction with counseling, instruction, and the total developmental program. They identified potentially low academic achievers and randomly selected sample subjects and a control group.

Students in the remedial programs earned a mean cumulative grade point average of 2.66 at the end of the first semester, almost three-fourths of a grade point higher than the 1.96 mean grade point average earned by the control group. The cumulative mean grade point average of the students in the remedial program at the end of the second semester was 2.20 and 1.93 at the end of the third semester. The grade point averages of the control group were available for first semester comparison only.

Roueche and Kirk stated that the drop in grade point average during the third semester was significant since this was the point at which the students were in regular college-credit courses.[30] Snyder and Blocker, consistent with Roueche and Kirk, concluded that the drop in grades from the first term of attendance to the second term was probably due to enrollment in more rigorous courses.[31]

Roueche and Kirk also found that students in remedial programs persist longer than comparable students in non-remedial programs. Eighty-two percent of the students enrolled in developmental programs completed at least two semesters while 70 percent of the control group completed two semesters. Fifty to 54 percent persisted for a third semester, and 35 percent persisted for two years.[32]

Rank (1979) reported that 81 percent of the students enrolled in a special program for students needing English, math and oral

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[30] J. E. Roueche and R. Wade Kirk, Catching Up: Remedial Education (San Francisco: Jossey-Bass, 1974), p. 53.

[31] Snyder and Blocker, Op. cit., p. 12.

[32] Roueche and Kirk, Loc. cit.

communication skills enrolled for a second semester.[33] This is consistent with Roueche and Kirk. Snyder and Blocker reported a 60-67 percent re-enrollment rate for the second semester. Tudor, Cohen and Schaier (1977), evaluating a remedial program at Bronx Community College, reported that 75 percent of the students returned for a second semester, 66 percent returned for a third semester and 50 percent returned for a fourth semester. No graduation rate was given.

Snyder and Blocker (1970) identified developmental students as enrolled in two or more developmental courses.[34] Roueche and Kirk (1974) defined developmental students as full-time, high-risk students who completed a minimum of nine credit hours of remedial work during the initial semester.[35] Baranchik and Ladas (1979), evaluating the remediation program at Hunter College of the City University of New York, reported on the non-retention of freshmen in 1975. For the statistical results, the authors conducted (1) a discriminate analysis study on retention, (2) stepwise multiple regression studies on overall GPA and English and mathematics GPA's and (3) analysis of covariance for each of the three GPA's.[36] Of the six hundred fourteen students receiving mathematics remediation, 15.8 percent were not retained. Of six hundred forty-two students enrolled in reading, 14.5 percent were not retained.

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[33] J. Rank, "One That Works: An Integrated Program of Basic Skills," April, 1979 (ERIC ED 173-762), p. 7.

[34] Snyder and Blocker, Op. cit., p. 1.

[35] Roueche and Kirk, Op. cit., p. 48.

[36] A. Baranchik and H. Ladas, "A Remediation Program in an Urban College," Improving College and University Teaching (Winter, 1979), p. 3.

Conducting a longitudinal study of 300 freshmen who entered Hunter in the fall, 1974, Baranchik and Ladas report that passing the remedial math course was the single most significant factor in retention for freshmen entering in 1974. Eighty-three percent of the students who completed the freshman course averaged 0.67 GPA points (.63 adjusted for differences significantly related to covariates) higher than those who failed or did not complete the course. For those students enrolled in the remedial reading course, the GPA of those students who passed the course did not differ significantly from those who failed or did not complete the course. Eighty-four percent of the freshmen completed the course in writing remediation. Those who completed the course averaged 0.21 GPA points (.01 adjusted for differences significantly related to covariates) better than those who failed or did not complete the course.

Benenson (1974) also reports on individual subject areas. In a study of one hundred twenty-three students (forty-six males and seventy-seven females) enrolled in a one-year remedial program which included extensive counseling at Bronx Community College, the fall retention rate was 70 percent, and the spring was 83 percent. The students were required to submit a writing sample before the course and one at the end of the course. The writing samples were graded on a scale from 1 to 9. The mean score of the pre-test was 3.9 with a standard deviation of 1.7. The post-test mean was 5.0 with a standard deviation of 2.1. Only 76 of the 123 students submitted a post-test. Benenson found little evidence to substantiate a conclusion of significant improvement in writing. He found no evidence to support a conclusion of significant improvement in mathematics competency based upon the California Achievement Test in Mathematics. In reading, based on the Davis Reading Test,

the grade equivalent score increased from 9.2 to 10.4.

Neither Baranchik and Ladas nor Benenson reported on the students' performance in subsequent math and English courses.

Student Satisfaction

Baranchik and Ladas (1977), as part of their study, surveyed the remedial students for their opinion of the courses.

> Student responses toward the remedial math course were favorable; tutors, working in small groups and self-pacing were listed as positive aspects. Transition from the remedial mathematics course into the next remedial course was found to be difficult.[37]

The authors did not report on the students' opinions of the reading course. Concerning the writing course, "the students felt that their placement into the writing course was generally correct, but they desired greater flexibility in the scheduling of the course."[38]

Roueche and Kirk (1974) measured degree of satisfaction with remedial education programs among students who currently were enrolled in developmental studies as well as among students who completed the studies and entered college-credit programs. Attitude was determined by data gathered through an attitude-assessment instrument administered to representative students. At least 70 percent of the one hundred seventy-two developmental students surveyed expressed general or high satisfaction with the instructors/instructional component of the program. Seventy percent of the students felt that the remedial program was useful in overall college work. Only 61 percent of the students

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[37] Ibid., p. 4.

[38] Ibid., p. 5.

expressed satisfaction with the testing program. Forty-one percent of the students replied that fewer than one-half of their remedial courses were interesting and stimulating.[39]

Reading Ability and Achievement

Maxwell (1979), citing factors that cause developmental courses to be evaluated as failures, included impossible expectations as one of the factors. The academically weakest students are placed in courses or programs which are six weeks to one term in length. The expectation often implied in curriculum schedules is that the program or course will raise the students' level of proficiency to that of regular admits. Speaking specifically of developmental reading courses, Maxwell stated:

> If students are recruited whose skills are far below their classmates', no program can make them fare as well in their courses as regular admits. Nor can any reading program raise students' reading ability four grade levels in ten weeks. . . . If students enter college with below eighth grade reading skills, they also lack information and knowledge that comes from reading in high school.[40]

Critics of remedial reading programs point to the fact that:

> Although 80 percent of community college students in some states enroll in remedial/developmental reading courses, only 20 percent of these same students go on to take further courses in English.[41]

Broadbent (1977), evaluating five specific reading programs at Leeward Community College, found that the lower the initial reading ability as measured by the Nelson-Denny Reading Test, the less likely a

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[39] Roueche and Kirk, Op. cit., p. 58.

[40] Maxwell, Op. cit., p. 23.

[41] Ibid., p. 294.

student was to complete the program or make significant learning gains. Students reading at the high school level made the greatest absolute and relative progress.[42]

At Bronx Community College, Benenson found no hard data to substantiate improvements in any basic skill area other than reading competency. Although the students' grade equivalent score increased from 9.2 to 10.4, no indication was given as to whether improved reading competency led to success in college level courses.[43]

Consistent with Broadbent and Benenson, Carney and Geis (1981) found that academic performance and retention are significantly related to entrance tests and reading test scores. Carney and Geis studied a random sample of 490 freshmen from time of enrollment until the beginning of the fifth semester of attendance. Using a multiple correlation of 23 independent variables with fifth semester enrollment, Carney and Geis found the best predictor of retention was first semester grade point average. Variables having the highest correlation with first semester grade point average were composite ACT score (.44) and Nelson-Denny total reading score (.41).[44]

Summary

In the last two decades colleges, including Harrisburg Area

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[42] W. A. Broadbent, "Leeward Community College: Developmental Education Study," October, 1977 (JC 770 448).

[43] T. F. Benenson, "Remediation of Non-Cognitive and Achievement Deficits in Disadvantaged Community College Freshmen," Project LINK, June, 1974 (ERIC ED 105 950), p. 44.

[44] M. Carney and L. Geis, "Reading Ability, Academic Performance and College Attrition," Journal of College Student Personnel, Vol. 22, No. 1 (January, 1981), p. 57.

Community College, have admitted students who lack the necessary basic skills to complete successfully college-level courses. Colleges may continue to expect even larger numbers of these developmental students. To accommodate these students, special courses and programs have been developed. Although incidences of strong evaluation presently are surfacing, for the most part, remedial/developmental programs have not been evaluated carefully. Evaluators have not specified in detail the methods used to achieve success, nor have they determined which of the student, program or staff factors contribute to the success or failure of the program. Much of the research describes programs and services or gives results of specific short-term treatments in specific courses. Few researchers follow student progress at single institutions over a long period of time.

Programs which have been evaluated do not indicate unequivocally positive outcomes. The programs largely have been ineffective in remedying student deficiencies. Research has been aimed primarily at the achievement and persistence rate of students. Achievement and persistence have been measured by the ability to make the transition from developmental to regular academic work without a loss of academic achievement, grade point average, courses and degrees completed, and transfers. Persistence of the student in developmental courses seems to be a predictor of successful completion of a degree or certificate program. Completion of a program or certificate is recognized to be a criterion of success. Few researchers survey student opinion. Those who do survey students, survey those currently in the developmental courses or in subsequent college-level courses, not the dropouts. Variables which appear to have a relationship to persistence are first

semester grade point average and entry reading grade level.

The purpose of this study is to learn what happened to a select group of developmental students after they were admitted to Harrisburg Area Community College. The methodology of the investigation is presented in Chapter 3, where the sources of the data, the procedure for gathering the data and the techniques used to analyze the data are discussed.

CHAPTER 3

METHODOLOGY

The purpose of this chapter is to delineate the methodology of this study as follows: (1) population description; (2) data collection procedures; and (3) instrumentation and analysis of data.

Population Description

The population for this study is confined to students who:

1. Matriculated in academic years 1977/78, 1978/79, and 1979/80;

2. Initially enrolled for nine or more credit hours of developmental courses including 001 English, 051 English and a zero-level math course as determined by the College Placement Policy;

3. Identified themselves as degree-seeking by checking an item on their initial admissions application.

The one hundred sixty-four students in this study were enrolled in the reading course (English 001), the developmental English course (English 051) and a developmental mathematics course during their initial semester at the College. It is possible for students to complete the developmental English sequence in one semester. Students were placed in the mathematics courses according to scores on the placement test, American College Testing scores, College Board scores and/or high school mathematics course history. The basic course was 010 which is a one-credit hour arithmetic course. If students were prepared for high school Algebra I, then they were scheduled into 011,

012 and 013 mathematics, which are one-credit hour courses, or 020 mathematics which is a three-credit hour course. Both the 011, 012 and 013 sequence and the 020 course are equivalent to high school Algebra I. If a student successfully completed an Algebra I course in high school, then the student initially was enrolled in the 051 mathematics course which is a three-credit hour course equivalent to high school Algebra II.

Data Collection Procedures

A computer search identified 164 students who fit this description. Using the Student Master File, biographic and demographic data of the students were obtained.

Each student's complete academic record showing courses taken, grades received, total number of credits earned, cumulative grade point average and degree or certificate received was obtained from the Student Master File of the College. The records were sorted into groups in two ways:

(1) according to number of semesters completed; (summer sessions were counted as a semester if the student attempted twelve credit hours, which is equivalent to a full-time course load during a regular semester); and

(2) according to number of students who successfully completed all developmental courses and those who did not. For purposes of this study, successful completion is completing the course with a grade of A, B, C or D.

Each student's progression through the developmental English and mathematics courses was charted by listing number of times the student enrolled in the course and grade received each time. Each student's

progression through sequential college-level English and mathematics courses was charted by listing number of times the student enrolled in the course and the grade received each time.

Instrumentation and Analysis of Data

The data gathered as a result of the computer searches and charts were organized and analyzed using standard descriptive statistical techniques. The data were organized to provide (1) a profile of the population using the variables of sex, age, ethnic background, high school from which the student graduated, financial aid status, curriculum at matriculation, and reading grade level at matriculation. The reading grade level was measured by the Nelson-Denny Reading Test, Form C, which was standardized in 1972. The test is designed to measure vocabulary, comprehension and reading rate. The vocabulary and comprehension scores are combined for a total score; (2) a description of the academic performance of the population as measured by the completion of the developmental courses, the completion of subsequent college-level English and mathematics courses, grade distributions of all English and mathematics courses attempted by the students, and credits attempted, credits earned and cumulative grade point average at the end of the first semester and at the end of the last semester enrolled; and (3) a description of the persistence of the students as measured by the number of semesters completed by the students subsequent to the semester of matriculation, withdrawals, academic suspensions, financial holds and degrees received.

The student records were then sorted into two groups, A and B. Group A consisted of all students who successfully completed the

developmental courses in the three areas of reading, English and mathematics. Successfully completed was defined as passing the courses with a grade of A, B, C or D. Group B consisted of all students who did not successfully complete courses in the three areas of reading, English and mathematics. Using frequencies and percentages, a comparison was made on the variables of sex, age, ethnic background, high school fr which the student graduated, financial aid status, curriculum at the time of matriculation and reading grade level as measured by the Nelson-Denny at the time of matriculation. The academic performances of groups A and B were compared using frequencies and percentages of mean credits attempted, mean credits earned, and mean cumulative grade point average at the end of the first semester enrolled and at the end of the last semester enrolled.

The Student Questionnaire

In the current literature on student persistence, student retention and academic coping skills, there are generally accepted reasons why students stay in college, why they leave and what makes the difference (Brown, 1970; Pauk, 1974; Astin, 1975; and Cope and Hannah, 1975). The Student Questionnaire (Appendix D) was developed by the researcher based upon four reasons, selected from the literature, why students stay in college: (1) students who stay have a clear educational goal; (2) students who stay have a clearly defined career goal; (3) students who stay have good study habits; and (4) students who stay do not feel isolated. Part I of the questionnaire was designed to determine if student satisfaction with the developmental courses was related to the staying power of the students. The Student Questionnaire was organized into three parts.

Part I: Questions dealing with the students' thoughts about the developmental courses.

The items in Part I of the Student Questionnaire were written to reflect the relationship of student satisfaction with the developmental courses to student persistence.

Part II-A and B: Questions dealing with the students' academic behavior; specifically, study habits, educational and career goals, participation in student activities, and employment.

The items in Part II-A and B of the Student Questionnaire were written to reflect the relationship of study habits, educational and career goals, participation in student activities, and employment to student persistence.

Part II-C: An open-ended question dealing with reasons why students persisted for those students who were still enrolled as of May, 1981 (Group 1); and questions to reflect why students left the College for those students who were no longer enrolled as of May, 1981 (Group 2).

The items in Part II-C of the Student Questionnaire were written to provide the opportunity for students to report why they believe they persisted or why they believe they left the College.

Six currently enrolled students who had finished at least one developmental course were asked to complete the questionnaire in the presence of the researcher. After discussing the questionnaire with the students, minor revisions were made for the purpose of clarity.

Of the forty-one students in Group 1, nineteen responded for a return rate of 46 percent. Of the one hundred twenty-three students in Group 2, sixteen responded for a return rate of 13 percent. Three weeks after the first mailing a follow-up letter and questionnaire were mailed. From the two mailings, twenty-three students in Group 1 responded for a return rate of 56.1 percent, and twenty-four students from Group 2 responded for a return rate of 19.5 percent. Data from

the returned questionnaires were tablulated and organized into frequency and percentage tables. Using frequencies and percentages, Groups 1 and 2 were compared.

The Personal Interviews

In order to gather additional data, personal interviews were conducted with 10 percent of the students randomly selected from each group. Every fifth student on an alphabetical list of students in Group 1 was contacted by mail. Of the nine students contacted, five responded and were interviewed in person at the College.

Using an alphabetical list of students in Group 2, every tenth student was contacted by telephone. The telephone was used to interview this group because the response rate on the mailed questionnaires was so low. Of the first eleven students contacted, five were no longer living in Pennsylvania. In order to interview additional students from Group 2, every tenth student on the list, beginning with the last student's name in the random sample, was contacted. A total of thirteen students from Group 2 was interviewed.

The students from Groups 1 and 2 were asked: (1) to evaluate their developmental courses and to express their satisfaction or dissatisfaction with the courses; (2) if they had a definite career and/or educational goal when they entered the institution; and (3) to evaluate their personal study habits. Students from Group 1 were asked for specific factors which contributed to their staying power. Students from Group 2 were asked for suggestions to improve the developmental program.

The responses from each group were organized into frequency and percentage tables and compared with the responses from the questionnaires.

CHAPTER 4

FINDINGS

This study was designed to analyze and describe the academic performance and persistence pattern of a select group of developmental students. The data collected for the study is presented in this chapter. This chapter is divided into six sections: (1) a profile of the student population; (2) a description of each student's academic performance; (3) a comparison between students who successfully complete the developmental courses and those who do not; (4) a description of their persistence; (5) the results of the student questionnaire; and (6) the results of the interviews.

Profile of the Student Population

In the following tables, "population" refers to the 164 developmental students selected for this study. The "student body" refers to the 5,016 students enrolled in the College during the fall semester of 1978.

Table 1 provides information on the sex and ethnic background of the developmental students. As can be seen from the table, the percentage of males and females is about equal, 49 percent female and 51 percent male, but white males comprise the largest share of the group.

When compared to the 1978 student body of the College, blacks were over-represented. Table 2 shows that 5.4 percent of the student body were black and 37 percent of the developmental students were black.

Table 3 shows that there was little difference in sex

identification between the population and the 1978 student body of the College.

Table 1

Sex and Ethnic Background of the Student Population

Ethnic Background	Female	Percent of Population	Male	Percent of Population	Total by Ethnic Background	Percent of Population
Black	40	24	20	12	60	37
White	35	21	60	37	95	58
Hispanic	3	2	1	0.1	4	02
Asian	3	2	2	0.1	5	03
Total by Sex	81	49	83	51	164	100

Table 2

A Comparison of the Student Population and the Student Body of the College by Ethnic Background

	Student Population		Student Body of the College, 1978	
Ethnic Background	Number	Percent of Population	Number	Percent of Student Body
Black	60	37	271	5.4
White	95	58	4,655	92.8
Hispanic	4	02	25	0.5
Asian	5	03	65	1.3
Totals	164	100	5,016	100.0

Table 3

A Comparison of the Student Population and the Student Body of the College by Sex

Sex	Student Population		Student Body of the College, 1978	
	Number	Percent of Population	Number	Percent of Student Body
Male	83	51	2,416	48
Female	81	49	2,600	52
Totals	164	100	5,016	100

Table 4 provides information on the age and sex of the student population. The 18-19 year olds were the largest group comprising 62.1 percent of the population.

Table 4

Age and Sex of the Student Population

Age	Male	Percent of Population	Female	Percent of Population	Total	Percent of Population
18-19	45	27	57	35	102	62.1
20-21	15	09	13	08	28	17.3
22-23	10	06	7	04	17	10.3
24 and above	13	07	4	03	17	10.3
Totals	83	49	81	50	164	100.0

When comparing the mean age of the student population to the mean age of the student body of the College, the developmental students

were younger than the student body. As can be seen in Table 5, the mean age of the developmental students was 19.6 years and the mean age of the student body in 1978 was 26.8 years.

Table 5

A Comparison of the Student Population and the Student Body of the College by Mean Age

	Student Population	Student Body of the College, 1978
Mean Age	19.6 years	26.8 years

Ninety-six percent of the developmental students were known to be high school graduates or G.E.D. recipients. As can be seen in Table 6, the largest percentage of students graduated from suburban schools. When compared to the student body of the College, city public school graduates were over-represented. Six percent of the student body graduated from city schools compared to 26 percent of the developmental students.

Table 7 provides information on the financial aid status of the developmental students and compares the financial aid status of the population to the student body of the College. As can be seen from Table 7, fifty-five percent of the developmental students received financial aid. When compared to the student body, there was a difference in the percentage of the students receiving financial aid. During the academic years of 1977, 1978 and 1979, an average of 23 percent of the student body received financial aid compared to 55 percent of the student population.

Table 6

A Comparison of Student Population and Student Body of the College by High School from which Student Graduated

	Student Population		Student Body of the College	
High School	Number	Percent of Population	Number	Percent of Student Body
City	43	26	311	6.2
Suburban	55	34	2,122	42.3
Rural	12	07	436	8.7
GED	7	04	60	1.2
Private	9	05	336	6.7
Out of District	18	11	1,169	23.3
Out of State	14	09	472	9.4
Unknown	6	04	110	2.2
Totals	164	100	5,016	100.0

In this study, the curriculum choice of the developmental students is organized by academic division. Table 8 shows that 35 percent of the students chose curricula in the Business Division. The next largest group, 21 percent, chose the Liberal Studies curriculum.

A general comparison of the curriculum choice of the population and the student body of the College was not made because the available enrollment statistics for academic years 1977, 1978 and 1979 were sorted by transfer programs and career programs rather than by academic divisions. However, a comparison was made of the Liberal Studies

curriculum. It is often believed at the College that the developmental students are clustered in the Liberal Studies curriculum. As can be seen from Table 9, twenty-one percent of the developmental students chose the Liberal Studies curriculum compared to fifteen percent of the student body.

Table 7

A Comparison of Student Population and the Student Body of the College by Financial Aid Status

Received Financial Aid*	Student Population		Student Body of the College
	Number	Percent of Population	Percent of Student Body
Yes	91	55	23
No	73	45	77
Totals	164	100	100

*Excluding veterans' benefits

The Nelson-Denny Reading Test is used for both entrance to and exit criteria from the English 001 course. The Nelson-Denny test score recorded on the Student Master File was found to be the score of the last test taken rather than the score at time of entry to the College. However, records of the entry reading grade level of students enrolled in reading during the years covered by this study were kept by one of the English faculty. The fall semester, 1977, scores were not available. Therefore, entry level reading scores were available for only 123 of the 164 students.

Table 8

Curriculum Choice at Matriculation of the Student Population

Curriculum	Number of Students	Percent of Population
Liberal Studies	35	21
Business	57	35
Communication/Arts	8	05
Liberal Arts/Math/Science	5	03
Math/Science Technical	11	07
Social Science	21	13
Life Science	17	10
Public Safety	10	06
Totals	164	100

Table 9

A Comparison of Curriculum Choice at Matriculation of the Student Population and the Student Body of the College

	Student Population		Student Body of the College	
Curriculum	Number	Percent of Population	Number	Percent of Student Body
Liberal Studies	35	21	755	15

Table 10 provides information on the reading grade level of the developmental students at matriculation. The largest group, 32 percent of the population, had a reading grade level which fell between ninth

and tenth grade. Thirty-one percent of the students had a reading grade level below eighth grade. Although 96 percent of the students were known to be high school graduates or GED recipients, 51 percent of the students scored below the ninth grade level and 83 percent below the tenth grade level on the Nelson-Denny.

Table 10

Reading Grade Level of the Student Population at Matriculation

Reading Grade Level	Number of Students	Percent of Population
Below 8	38	31
8.1 - 9	25	20
9.1 - 10	39	32
10.1 - 11	16	13
Above 11	5	4
Totals	123	100

Academic Performance

In this study, academic performance was measured by the completion rate of the developmental courses, the completion rate of subsequent college-level English and mathematics courses, the number of credits attempted in relation to credits earned, grades received, and cumulative grade point averages.

Information provided in Table 11 shows that 72 percent of the student population did not successfully complete the developmental courses in English and mathematics. Successful completion was receiving a D grade or higher in each of the courses.

Table 11

Successful Completion of Developmental Courses in Reading, English and Mathematics by the Student Population

Completion	Number of Students	Percent of Population
Yes	46	28
No	118	72
Totals	164	100

Table 12 provides information on the performance in subsequent college-level English and mathematics courses of those 46 students who successfully completed the reading, English and mathematics courses. Throughout the study, these 46 students will be referred to as Group A. Eighty percent of the students in Group A successfully completed one college-level English course, but only 48 percent were able to successfully complete a college-level mathematics course. Forty-three percent of Group A successfully completed both a college-level English course and a college-level mathematics course. Twelve percent of the student population of 164 students completed at least one college-level English course and one college-level mathematics course.

Table 13 provides information on the performance of the student population in the English course sequence. As can be seen from the table, 71 percent of the students completed the 051 English course. Sixty-five percent completed the English 101 course. Twenty-eight percent of the student population persisted long enough to enroll in English 102. Eighty-three percent of those students who enrolled in English 102 successfully completed it with a D grade or higher.

Table 12

Successful Completion of Subsequent College-Level English and Mathematics Courses by the Students who Successfully Completed the Developmental Reading, English and Mathematics Courses

Course	Number Who Completed	Percent of Group A	Percent of Population
English 101	37	80	23
English 101 and 102	26	57	16
At least one Math course	22	48	13
At least one English and one Math	20	43	12
English 101, 102, and at least one Math	17	37	10

In the grade distribution of the English courses, it can be seen that the grades dropped when students enrolled in their first college-level English course, English 101. There was a 22 percent failure rate for the English 101 course as compared to 12.8 percent failure rate in the developmental English 051 course. Students who enrolled in the English 102 course had a failure rate of 4.3 percent. The withdrawal rate was consistent in the three courses.

In the distribution of English grades in Table 13, only the last grade the student received in the course is included. Students may repeat courses in which they earned a D grade or below; and, therefore, may have had two or more grades in the same course.

The performance of the student population in the mathematics sequence of courses is shown in Table 14. As can be seen from Table 14, of the one hundred sixty-four students who initially enrolled for the

developmental mathematics sequence, 50 percent of the students enrolled in Mathematics 051, the equivalent of high school Algebra II. Thirty-two percent of the population successfully completed the developmental sequence, and 13 percent of the population completed at least one college-level mathematics course.

Table 13

Performance of the Student Population in English Courses by Students who Completed the Courses and Their Grade Distribution

Course	Number of Students Who Enrolled	Number of Enrolled Who Completed	Percent of Enrolled Who Completed	Percent of Population Who Completed
English 051	164	116	71	71
English 101	91	59	65	36
English 102	46	38	83	23

Grade	Eng. 051	Percent of Students Who Enrolled	Eng. 101	Percent of Students Who Enrolled	Eng. 102	Percent of Students Who Enrolled
A	14	8	3	4	6	13
B	46	28	12	13	9	20
C	44	27	33	36	20	43
D	12	7	11	12	3	7
F	21	13	20	22	2	4
W	18	11	10	11	6	13
Y	6	4	0	0	0	0
I	3	2	2	2	0	0
Totals	164	100	91	100	46	100

Table 14

Performance of the Student Population in Mathematics Courses by Completion Rate and Grade Distribution

Course	Number of Students Who Attempted	Number of Students Who Completed	Percent of Attempters Who Completed	Percent of Population Who Completed
051 Mathematics	82	52	63	32
College-Level Mathematics	34	22	65	13

	Mathematics								
Grade	051	103	104	109	110	114	202	121	122
A	3	1	0	0	0	0	0	0	0
B	17	2	2	1	0	0	0	1	0
C	23	12	2	3	1	0	0	0	0
D	9	3	1	0	2	0	0	0	0
F	19	7	0	3	0	1	1	1	0
W	9	1	2	0	0	0	1	0	1
Y	2	1	0	0	0	0	0	0	0
I	0	0	0	0	0	0	0	0	0
Totals	82	27	7	7	3	1	2	2	1
Number of Students Who Completed	52	18	5	4	3	0	0	1	0

In the distribution of mathematics grades, there are 50 grades in the college-level courses attained by 34 students, some of whom completed more than one course in the sequence. When students had more than one grade in a course because of repeated courses, only the last grade received was included in the distribution.

Table 15 presents a summary of the grades which the student population earned in the English and mathematics sequences. As can be seen in Table 15 and in Appendix E, Tables 9 and 10, there was a greater number of grades listed than numbers of students enrolled in the courses because students repeated courses. There was also a greater number of passing grades than numbers of students who passed the course since students sometimes repeated D grades.

The course most often repeated was 013 mathematics which is the last third of the Algebra I course. There were fifty-nine repeats in the reading course, 001 English. The repeats in reading are expected since students normally do not raise their reading grade level two or more grades in one semester, and 51 percent of the population had a reading grade level of ninth grade or below. The number of repeats was also high in part two of Algebra I, 012 mathematics, and in Algebra II, 051 mathematics.

In the distribution of English and mathematics grades (Appendix E), 51.2 percent of the grades earned by the student population were passing grades. In the distribution of English grades, 60.8 percent were passing grades and in the distribution of mathematics grades, 43.6 percent of the grades were passing.

Table 15

Summary of Grades Earned by the Student Population in English and Mathematics Courses

	Developmental English		College-Level English		Developmental Mathematics					
	001	051	101	102	010	011	012	013	020	051
No. Grades Recorded	223	194	118	51	46	144	170	167	26	124
No. Students Enrolled	164	164	91	47	38	124	124	102	23	82
No. Students Passed	119	116	60	46	23	82	63	49	10	51
Percent Enrolled Who Passed	73	71	66	98	61	66	51	48	43	62
No. Repeats	59	30	27	4	8	20	46	65	3	42
Percent Repeats	26	15	23	08	17	14	27	39	12	34

	College-Level Mathematics								
	100	111	103	104	109	110	121	122	202
No. Grades Recorded	11	2	32	8	10	4	2	1	2
No. Students Enrolled	10	2	27	7	9	3	1	1	2
No. Students Passed	2	1	17	4	5	3	1	0	0
Percent Enrolled Who Passed	02	50	63	57	56	100	100	0	0
No. Repeats	1	0	5	1	1	1	1	0	0
Percent Repeats	09	0	16	13	10	25	50	0	0

Table 16 provides information on the mean cumulative credits attempted and earned by the student population. As can be seen from Table 16, the students earned 64 percent of the 12.4 mean credits they attempted during their initial semester of attendance. At the end of their last semester of attendance, they earned 64 percent of the 40.5 mean cumulative credits they attempted. The relationship between the students' performance in completing credits attempted during their first semester of attendance and their cumulative performance did not change. Further research is indicated.

Table 16

Mean Cumulative Credits Attempted and Earned by the Student Population

	Number of Credits Attempted	Number of Credits Earned	Percent of Credits Earned
End of First Semester Attended	12.4	7.9	64
End of Last Semester Attended	40.5	26.0	64

Table 17 shows the mean cumulative grade point average of the student population at the end of the first semester attended and at the end of the last semester attended. The higher the grade point average at the end of the first semester attended, the greater the number of semesters the student stayed up to and including six semesters. Regardless of the number of semesters the students attended, the cumulative mean grade point average was lower for the last semester attended than

at the end of the first semester.

Table 17

Mean Cumulative Grade Point Average of the Student Population by Number of Semesters Attended

Total Semesters Attended	Number of Students	Cumulative Grade Point Average at End of First Semester	Cumulative Grade Point Average at End of Last Semester
1	40	.77	.77
2	41	1.95	1.20
3	35	2.37	1.79
4	24	2.57	1.87
5	7	2.89	2.22
6	13	2.99	1.93
7	3	2.55	2.08
8	1	3.29	2.18
Mean GPA for Student Population		2.42	1.76

Table 18 provides a summary of the mean credits attempted, mean credits earned and the cumulative grade point average of the student population by the number of semesters persisted. The students earned 64 percent of the mean credits attempted. The mean cumulative grade point average was 1.76. The students who left the College at the end of the fifth and seventh semesters earned 80 percent of the credits which they attempted; however, each of these groups were comprised of a small number of students. Seven students persisted to the end of the fifth

semester and three students persisted to the end of the seventh semester.

Table 18

Summary of Mean Credits Attempted, Earned and Cumulative Grade Point Average by Semesters Persisted

Semesters Persisted	N	Mean Credits Attempted	Mean Credits Earned	Cumulative Grade Point Average	Percent of Credits Earned of Credits Attempted
1	40	11.8	3.7	0.77	31
2	41	21.9	9.7	1.20	44
3	35	37.4	24.3	1.79	65
4	24	47.8	32.0	1.87	67
5	7	60.9	58.6	2.22	80
6	13	72.5	46.8	1.93	65
7	3	76.7	61.3	2.08	80
8	1	76.0	34.0	2.18	45
Population Mean		405	260	1.76	64

Comparison of Group A and Group B

Group A consists of all students who successfully completed the developmental courses in the three areas of reading, English and mathematics. Group B consists of all students who did not successfully complete the courses in reading, English and mathematics. There were forty-six students in Group A and one hundred eighteen students in Group B. Successful completion is defined as completing the courses with a grade of A, B, C or D.

Table 19 provides information on the sex identification of Groups A and B. As can be seen from the table, both groups are about equally divided between males and females.

Table 19

Comparison of Group A and B by Sex

	No. of Males	Percent of Males	No. of Females	Percent of Females	Totals Number	Totals Percent
Group A	24	52	22	48	46	100
Group B	59	50	59	50	118	100

Table 20 compares Groups A and B by age and sex. As can be seen from Table 20, there is a difference between the 18-19 year old males in the two groups. Thirty-five percent of the 18-19 year old males completed the developmental courses compared to 24.6 percent of the 18-19 year old males who did not complete the developmental courses. There is little difference in the other age groups and little difference among the females.

Table 21 provides a comparison of Groups A and B by ethnic background. As can be seen from Table 21, the greatest difference between Groups A and B is between the blacks. Twenty-eight percent of Group A is black and forty percent of Group B is black.

Figure 1 provides a comparison of Groups A and B by the high school from which the students graduated. As can be seen in Figure 1, the graduates of the city schools were less successful in completing the developmental courses than the graduates of other schools. City school graduates comprise 8.7 percent of Group A and 33 percent of Group B.

Table 20

Comparison of Groups A and B by Age and Sex

	Group A				Group B			
Age	No. of Males	Percent of Males	No. of Females	Percent of Females	No. of Males	Percent of Males	No. of Females	Percent of Females
18-19	16	35	15	33	29	24.6	42	35.6
20-21	2	4	4	9	13	11	9	7.6
22-23	3	6.5	2	4	8	6.8	4	3.4
24 and Above	3	6.5	1	2	9	7.6	4	3.4
Totals	24	52	22	48	59	50	59	50

Table 21

Comparison of Groups A and B by Ethnic Background

	Black		White		Asian		Hispanic		Totals	
	N	%	N	%	N	%	N	%	N	%
Group A	13	28	28	61	3	7	2	4	46	100
Group B	47	40	67	57	2	1.7	2	1.7	118	100

Table 22 compares Groups A and B by financial aid status. As can be seen from Table 22, sixty-seven percent of Group A received financial aid compared to fifty-one percent of Group B.

Figure 2 provides a comparison of Groups A and B by the choice of curriculum at the time of entry into the College. As can be seen from Figure 2, Group A students comprise the larger share of business

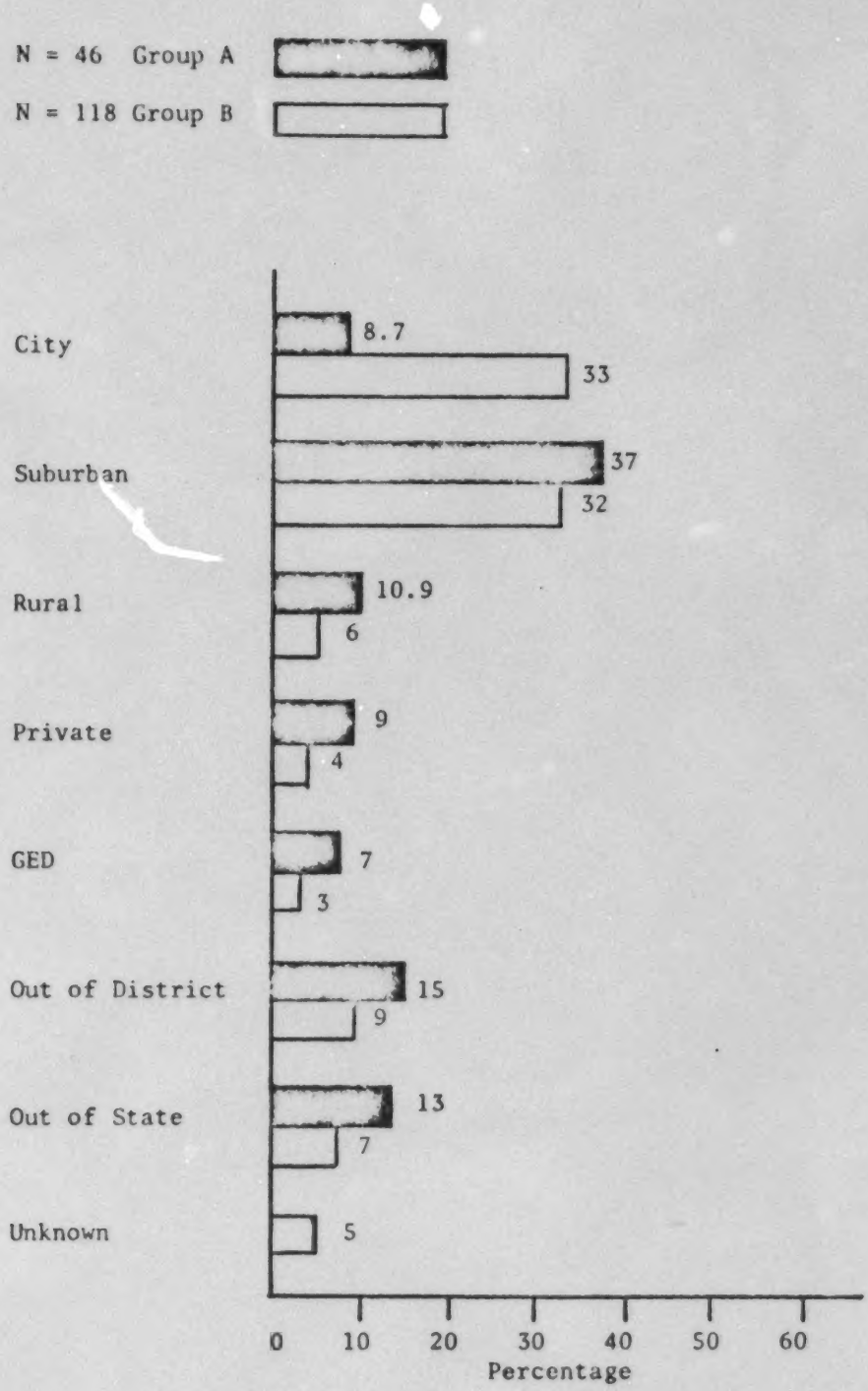

Figure 1

Comparison of Groups A and B by High Schools from Which Graduated

and life science students, and the smaller share of liberal studies, math/science/technical, social science, and public safety students.

Table 22

Comparison of Groups A and B by Financial Aid Status

	Group A		Group B	
Received Financial Aid	N	%	N	%
Yes	31	67	60	51
No	15	33	58	49
Totals	46	100	118	100

Table 23 provides a comparison of Groups A and B by mean credits attempted and earned. As can be seen from Table 23, Group A earned seventy-eight percent of the credits attempted and Group B earned forty-seven percent of the credits attempted.

Table 23

Comparison of Groups A and B by Mean Credits Attempted and Earned

	Group A	Group B
Mean Credits Attempted	50.76	26.89
Mean Credits Earned	39.78	12.53
Percent of Credits Earned	78	47

Table 24 provides a comparison of Groups A and B by mean cumulative grade point average earned at the end of the first semester

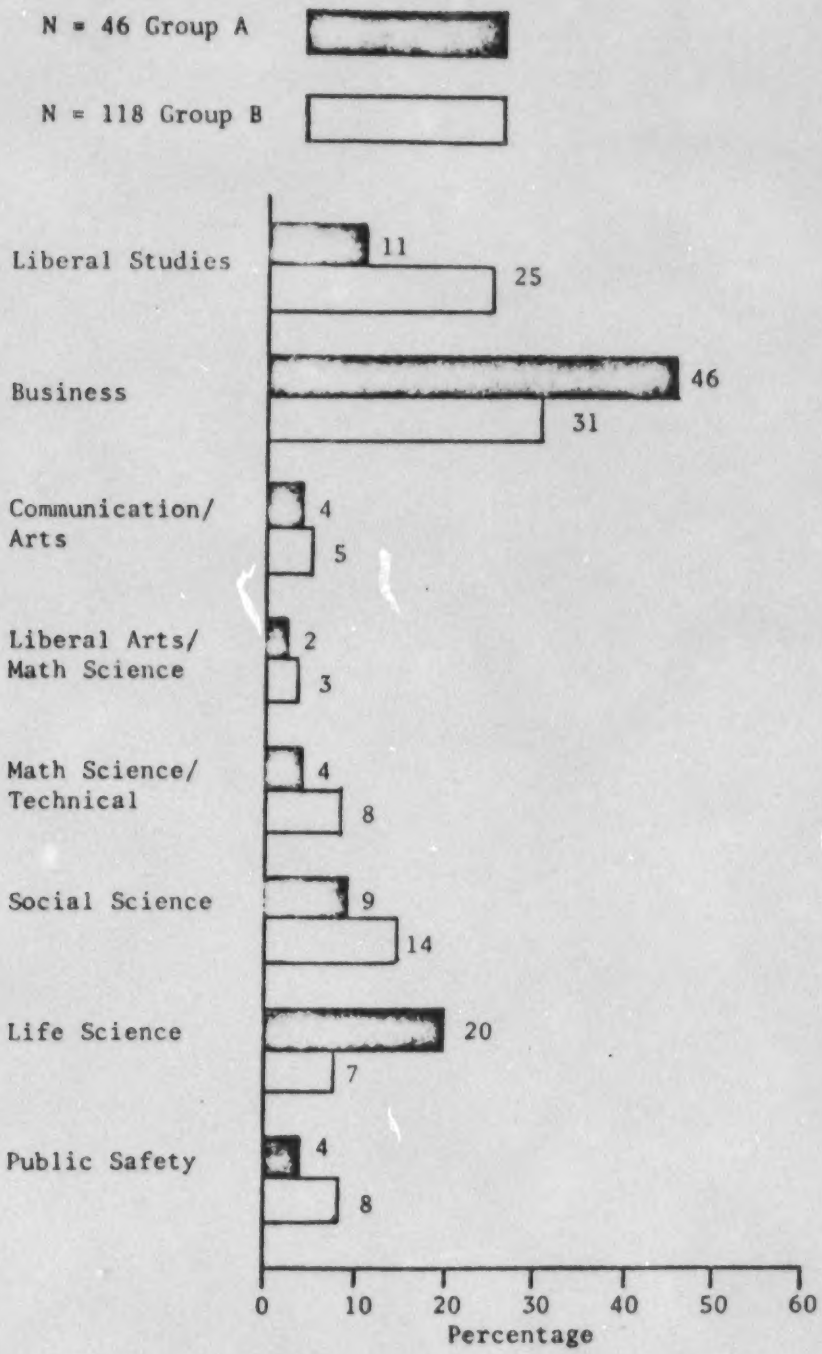

Figure 2

Comparison of Groups A and B by Curriculum Choice at Matriculation

attended and at the end of the last semester attended. As can be seen from the table, Group A maintained a higher grade point average, 2.60, than Group B, who maintained a grade point average of 1.53; but both groups had lower cumulative grade point averages at the end of the last semester attended than at the end of the first semester attended.

Table 24

Comparison of Groups A and B by Mean Cumulative Grade Point Average

	Group A	Group B
End of First Semester Attended	2.60	1.53
End of Last Semester Attended	2.24	1.12

Table 25 provides a comparison of Groups A and B by mean reading grade level at matriculation. As can be seen from Table 25, there is no difference between the entry reading grade level of the students in Groups A and B.

Table 25

Comparison of Groups A and B by Mean Reading Grade Level at Matriculation

	Group A	Group B
Reading Grade Level	8.8	8.9

Figure 3 shows the number of semesters that the students in Group A needed to complete the developmental courses in reading, English and mathematics. As can be seen in Figure 3, of Group A, 89.1 percent

needed three or more semesters to complete the developmental courses.

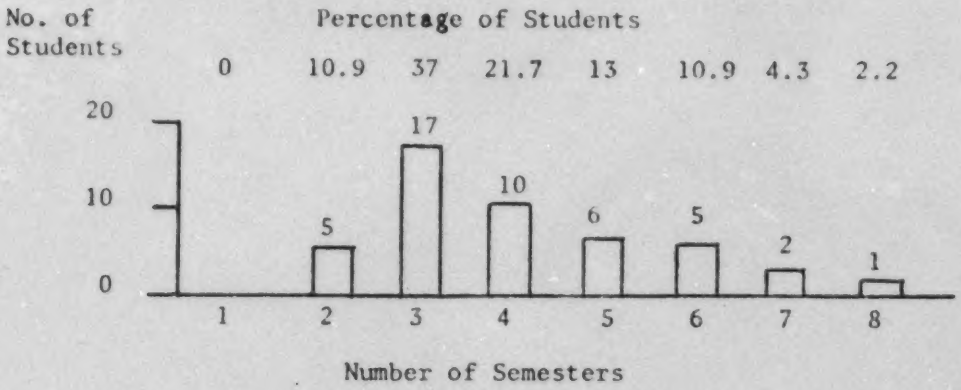

Figure 3

Semesters Group A Needed to Complete Developmental Courses

Persistence

In this study, persistence is measured by the number of semesters completed by the students subsequent to the semester of matriculation. Figure 4 shows that 75.6 percent of the students persisted for one year and 29.3 percent persisted for two years. For the first two semesters, the drop-out rate was approximately 25 percent each semester.

Figure 5 provides information on the mean cumulative grade point average of the student population at the end of the last semester completed. As can be seen in Figure 5, the students who left the College at the end of the first semester left with a low grade point average of 0.77 on a four-point scale.

Table 26 provides information on the academic status of the student population at the end of the last semester attended. As can be seen from Table 26, of the eighty-one students who left the College

within the first year, fifty-four (66.7 percent) were in academic difficulty. Of the seventeen students who stayed for six semesters, six students were still on probation.

A student who fails to maintain a grade point average of 2.00 is placed on academic probation. A student who fails to maintain a cumulative grade point average according to College requirements is academically suspended from the College. The suspension policy is not applied at the end of the first semester enrollment (Appendix F).

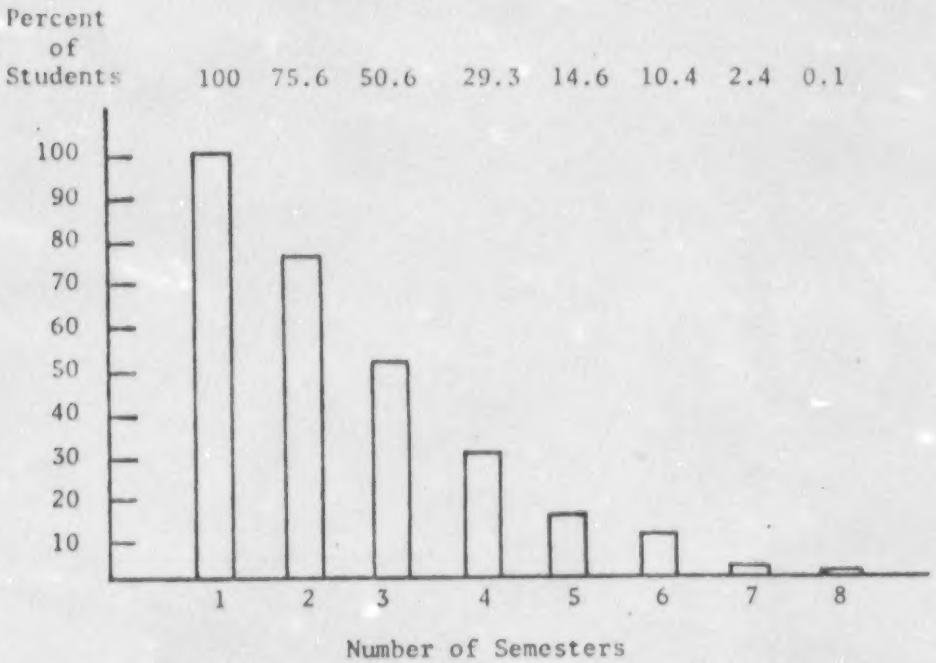

Figure 4

Semesters Student Population Persisted

Figure 6 provides a comparison of College-imposed withdrawals and voluntary withdrawals. As can be seen from Figure 6, the College policies of academic suspension and financial hold are important factors in the staying power of the students. During the first semester, 37.5

percent of the students could not re-enroll because of the financial hold policy. When the suspension policy took effect at the end of the second semester, 51.2 percent of the students were under College-imposed dismissal. Of the one hundred sixty-four students in the population, there were sixty-eight suspensions and financial holds on an unduplicated total of sixty-three students, 38.4 percent of the population. It is an important finding that 40.8 percent of the student population chose to withdraw or drop out, whereas 38.4 percent of the population were dismissed under the College policies of academic suspension and financial hold.

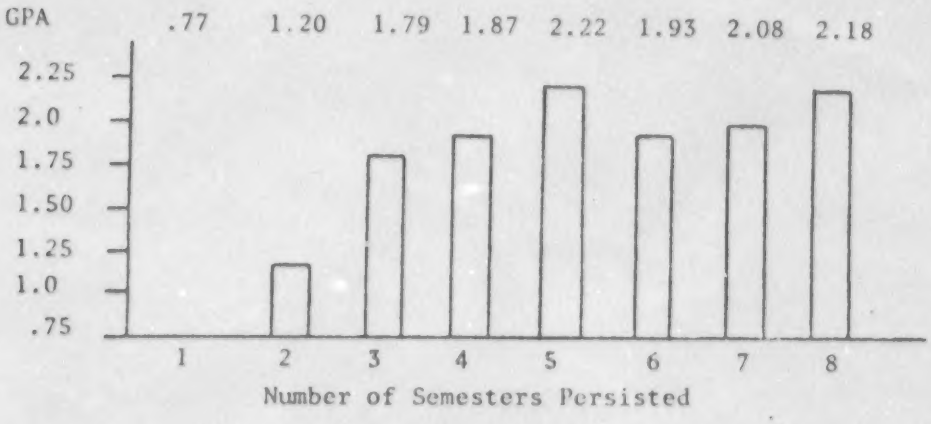

Figure 5

Mean Cumulative GPA of Student Population
at End of Last Semester Attended

Student Questionnaire

In the current literature on student persistence, student retention, and academic coping skills, there are reasons given why students stay in college, why they leave and what makes the difference (Brown, 1970; Pauk, 1974; Astin, 1975; and Cope and Hannah, 1975).

Table 26

Status at End of Last Semester Attended

Semesters Persisted	1	2	3	4	5	6	7	8	Totals
Number of Students Who Persisted	40	41	35	24	7	13	3	1	164
Number on Probation	24	14	8	6	2	5	1	0	60
Number on Suspension	0	16	11	7	1	1	0	0	36
Number on Financial Hold	15	6	5	3	0	1	0	0	32
Number Who Graduated	0	0	0	0	2	1	1	0	4
Number Who Withdrew (Official)	12	3	3	2	1	1	0	0	22
Number Who Did Not Re-enroll	13	16	5	3	3	3	1	1	45
									199*

* It is possible for the same student to be in two categories. For example, a student may be suspended and on financial hold and/or on probation and/or officially withdrawn. First semester students are not dismissed under the suspension policy.

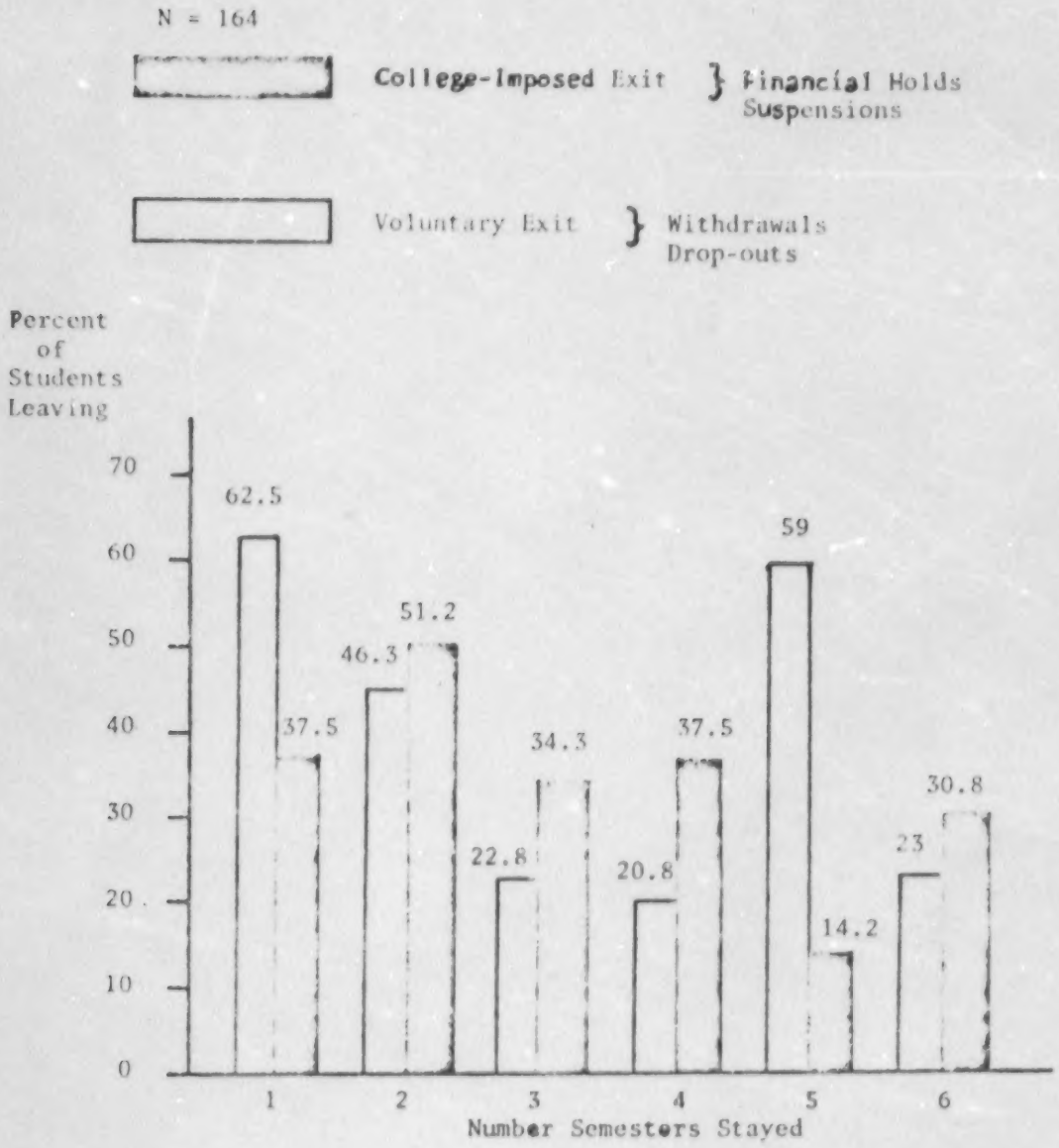

Figure 6

Comparison of Groups A and B by College-Imposed Withdrawals and Voluntary Withdrawals

Four of the reasons why students stay in college which are generally accepted in the literature are: (1) students who stay have a clear educational goal; (2) students who stay have a clearly defined career goal; (3) students who stay have good study habits; and (4) students who stay do not feel isolated. The Student Questionnaire was developed by the researcher to learn if these reasons were applicable to this group of developmental students, and to determine if student satisfaction with the developmental courses was related to the persistence of the students. The Student Questionnaire was organized in the following manner:

Part I:

> Questions dealing with student ' thoughts about the developmental courses.

Part II-A and B:

> Questions dealing with the students' academic behavior; specifically, study habits, educational and career goals and participation in student activities.

Part II-C:

> An open-ended question dealing with reasons why the student persisted for students who were still enrolled as of May, 1981 (Group 1); and questions pertaining to why students left the College for students who were no longer enrolled as of May, 1981 (Group 2).

The Student Questionnaire was mailed to one hundred sixty-four students, forty-one in Group 1 and one hundred twenty-three in Group 2. After a period of three weeks, a follow-up letter and questionnaire were mailed. Of the forty-one students still attending the College (Group 1), there were twenty-three respondents, a return rate of 56 percent. Of the one hundred twenty-three students who were no longer attending the College (Group 2), there were twenty-four respondents, for a return rate of 19 percent, and twenty-three unforwardables

(18.7 percent). The data from the questionnaires were compiled and organized into frequency and percentage tables (Appendices G and H).

Part I--Developmental Courses. The items in Part I of the Student Questionnaire were written to learn if student satisfaction with the developmental courses was related to the students' persistence.

In general, both groups expressed "very much" and/or "some" satisfaction with the developmental courses (Appendices G and H). Table 27 shows, however, that Group 1 expressed more satisfaction with the courses than Group 2.

Table 27

Comparison of Groups 1 and 2 by Student Satisfaction with the Developmental Courses

Course	Group 1 Very Much Satisfaction	Group 2 Very Much Satisfaction
English 001	65.2%	33.3%
English 051	65.2%	20.8%
Mathematics (Algebra I)	60.9%	33.3%
Mathematics (Algebra II)	43.5%	33.3%

Since 50 percent of the students in Group 2 left the College at the end of their first year, they did not enroll in college-level courses, and therefore did not respond to all of the questions about the developmental courses (Appendix H).

Part II-A--Academic Behavior. The items in Part II-A of the Student Questionnaire were written to learn if the students who stayed at the College, Group 1, reported having better study habits than the students who left the College, Group 2.

Table 28 provides a comparison of Groups 1 and 2 by reported academic behaviors. As can be seen from the table, 33.3 percent of Group 2 usually had difficulty concentrating as compared to a zero response by Group 1. Of the Group 2 students, 37.5 percent seldom had difficulty studying because of personal problems as compared to 73.9 percent of Group 1. Twenty-nine percent of Group 2 were usually disappointed with their academic performance as compared to 8.7 percent of Group 1. Of the Group 1 students, 60.9 percent had a regular place to study as compared to 33.3 percent of Group 2.

Table 28

Comparison of Groups 1 and 2 by Self-Reported Academic Behavior

Academic Behavior	Group 1	Group 2
Difficulty Concentrating (Usually)	0.00%	33.3%
Personal Problems Interfered with Study (Seldom)	73.9%	37.5%
Disappointed with Performance (Usually)	8.7%	29.2%
Regular Place to Study (Usually)	60.9%	33.3%

Part II-B. The items in Part II-B of the Student Questionnaire were written to learn if students who persisted had a definite educational and career goal when they entered the College. The questions dealing with on-campus employment and participation in student

activities were included in the Student Questionnaire because, in the literature, these two activities are associated with persistence.

Table 29 provides information on the educational and career goals of Groups 1 and 2. As can be seen from the table, 52.2 percent of Group 1 reported that they had a definite educational goal as compared to 79.2 percent of Group 2. The students in Group 1 were equally divided in their response to their certainty about a career goal. Of the Group 1 students, 47.8 percent were certain about a career goal as compared to 54.2 percent of Group 2.

Table 29

Comparison of Groups 1 and 2 by Self-Reported Goals

	Group 1		Group 2	
Definite Goal	Yes	No	Yes	No
Educational	52.2%	47.8%	79.2%	20.8%
Career	47.8%	47.8%	54.2%	41.7%

Table 30 provides information on the employment of the developmental students. As can be seen from the table, approximately 70 percent of each group worked; however, 13.0 percent of Group 1 had on-campus employment as compared to zero percent of Group 2. Of the Group 1 students, 56.5 percent worked off campus compared to 70.8 percent of Group 2. Group 1 students worked an average of twenty-four hours per week as compared to an average of twenty-eight hours per week for Group 2.

Table 30

Comparison of Groups 1 and 2 by
Employment Practices

	Group 1		Group 2	
Employment	Yes	No	Yes	No
On-Campus	13.0%	87.0%	0.00%	95.8%
Off-Campus	56.5%	43.5%	70.8%	25.0%
Average Hours Per Week	24		28	

Table 31 shows that 21.7 percent of the students in Group 1 participated in student activities as compared to 12.5 percent of Group 2.

Table 31

Comparison of Groups 1 and 2 by Participation
in Student Activities

Student Activities	Group 1	Group 2
Yes	21.7%	12.5%
No	78.3%	83.3%

Part II-C. Part C of the Student Questionnaire gave the students the opportunity to report why they believed they persisted at the College or why they believed they left the College.

Thirty-five percent of the students in Group 1 continued their education because "they just wanted a better education." Twenty-one percent of the students continued in order to please their parents, and

17 percent continued because they needed more education in order for challenging employment opportunities (Appendix G).

Three-fourths of the students in Group 2 chose employment as an important factor in their decision to leave the College. Fifty-eight percent of the students stated that financial difficulty was an important factor, and 54.2 percent felt that inadequate achievement was an important factor. Academic suspension was an important factor for approximately one-third of the students (Appendix H).

Student Interviews

In order to provide additional data, eighteen students were interviewed, five from Group 1 and thirteen from Group 2. The students in Group 1 who were interviewed were favorable toward the developmental courses and expressed satisfaction with the courses. One of the students stated that the 001 English and 051 English courses were not related to the college-level course work. Two of the students had a career goal upon entry to the College and two had a definite educational goal. Four of the five students felt they had good study habits. The students gave more than one reason for continuing their education. Three students continued for self-satisfaction and three students were encouraged by a person or persons on campus.

The thirteen students of Group 2 who were interviewed responded favorably to the questions about the developmental courses. Three of the students had some reservations about the 001 English and 051 English courses. Five of the students did not enroll in any college-level mathematics or English courses. Seventy-nine percent of the questionnaire respondents had an educational goal, and 77 percent of the interviewees

had an educational goal. Fifty-four percent of the questionnaire respondents and 54 percent of the interviewees were certain about a career goal when they entered the College. The students who were interviewed stated that employment and financial problems were important factors in their decision to leave college. Two of the interviewees left the College to transfer to another college, and two left because they were academically suspended.

The responses from the interviews of both groups were very similar to the responses from the questionnaires; however, since the response rate to the questionnaire and the interviews was limited, the data reported above is from a biased sample of students. Table 32 provides information on the response rate to the Student Questionnaire and the personal contacts. As can be seen from the table, 56.1 percent of Group 1 responded to the Student Questionnaire and 19.5 percent of Group 2 responded. Of the students in Group 1 who were contacted, 55.1 percent were interviewed, and 68.4 percent of the Group 2 students who were contacted were interviewed.

Table 32

Student Questionnaire and Interview
Rate of Response

Questionnaire	Group 1	Group 2
Number Contacted	41	123
Number Respondents	23	24
Percent Respondents	56.1	19.5
Interviews	**Group 1**	**Group 2**
Number Contacted	9	19
Number Interviewed	5	13
Percent Interviewed	55.1	68.4

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Summary of Conclusions

The purpose of this study was to describe the academic performance and the persistence pattern of a select group of developmental students who matriculated at the Harrisburg Area Community College in the academic years of 1977/78, 1978/79, and 1979/80. These students defined themselves as degree-seeking at the time of matriculation; however, at the end of the spring semester 1981, only four of the one hundred sixty-four students studied had completed requirements for a degree. The researcher sought to learn what happened to these students after they entered the College under the open admissions policy. Did they complete the developmental course sequence and did they gain sufficient proficiency to complete college-level mathematics and English courses? When and why did they drop out of the College? If they persisted, why did they believe they persisted?

On the basis of the findings, the following conclusions seemed justified:

1. The developmental students differ from the student body of the College in the following ways: they were younger; a larger percentage of them were black; a larger percentage of them graduated from urban public schools; and a larger percentage of them received financial aid.

2. Generally, students were not successful in completing the

developmental course sequence. Of those who did complete the developmental sequence, few completed college-level mathematics and English courses. Forty-three percent of the 46 students who successfully completed the developmental courses were later successful in completing both a college-level English and mathematics course. Only 12 percent of the one hundred sixty-four students studied completed both a college-level English and mathematics course.

3. Students who completed the developmental sequence of courses (Group A) differed from those students who did not complete the developmental sequence (Group B) in the following ways: Group A had a larger percentage of 18-19 year old males, fewer blacks, fewer urban high school graduates, and larger percentage of financial aid recipients than Group B.

4. Students who completed the developmental course sequence (Group A) completed the first semester of attendance with a higher grade point average than students who did not complete the developmental course sequence (Group B). Thus, first semester grade point average seems to be an indicator of success in completing the developmental courses.

5. Of the students who completed the developmental course sequence, 58.7 percent needed three or four semesters to do so. Eighty-nine percent of the students needed more than two semesters to complete the developmental course sequence.

6. There was no difference in reading grade level at time of matriculation between students who completed the developmental course sequence and those who did not.

7. The students had more difficulty passing mathematics courses

than in passing English courses.

8. The relationship between mean cumulative credits attempted and earned at the end of the first semester attended and at the end of the last semester attended did not change. At the end of the first semester students completed 64 percent of the courses attempted. At the end of the last semester completed, the ratio between cumulative credit hours attempted and cumulative credit hours completed was the same (64 percent).

9. Regardless of the number of semesters attended, the mean cumulative grade point average was lower for the last semester attended than at the end of the first semester. Thus, first semester grade point average seems to be positively related to the staying power of the students.

10. The forty-students who left the College at the end of their first semester attended, left with an extremely low grade point average of 0.77. Of the one hundred twenty-four students who enrolled for a second semester, 75 percent ended the semester in academic difficulty.

11. Of the one hundred twenty-three students who left the College, 49.4 percent left by the end of the first year, and 70.7 percent left by the end of the third semester. The College policies of academic suspension and financial hold impinged upon the students' decision to persist. Of the students who left the College during the period of this study, 38.4 percent were dismissed under these policies compared to 40.8 percent who chose to drop out.

12. The reasons for persisting most often given by the students were that they just wanted a better education and they wanted to please their parents.

13. The reasons for leaving the College most often given by the students were to take employment, inadequate achievement, financial difficulties, and academic suspension.

Discussion of Conclusions

Profile of the Student Population

This select group of developmental students was young. Slightly more than 62 percent were 18-19 year old, recent high school graduates. The percentage of males and females was about equal, but white males comprised the largest share of the group. The finding that white males comprised the largest share of the group is important, since it is often assumed that developmental students are primarily from minority groups. The largest common group (34 percent) of these students graduated from suburban high schools. Fifty-five percent of the students were recipients of financial aid. Thirty-one percent of the students chose the Business Curriculum at matriculation, and 21 percent chose the Liberal Studies Curriculum. Although 92 percent of the students were known to be high school graduates, 51 percent entered the College with a reading grade level of ninth grade or below as measured by the Nelson-Denny Reading Test. Eighty-three percent of the students had a reading grade level of tenth grade or below, even though 96 percent of the students studied were high school graduates or General Education Diploma recipients. The mean credit hours attempted for the first semester were 12.4 which indicates that a large proportion of these students were full-time students.

When compared to the entire student body of the College, blacks as a group were over-represented. Thirty-seven percent of these

developmental students were black, while only 5.4 percent of the student body was black. The developmental students were much younger than the student body. Their mean age was 19.6 years as compared to the mean age of 26.8 years for the 1978 student body. The two groups also differed on the variable of financial aid status. Fifty-five percent of the developmental students received financial aid as compared to 23 percent of the student body.

Academic Performance of the Student Population

The primary purpose of the developmental course sequence is to prepare students for college-level courses. Of the one hundred sixty-four students in the study, 28 percent passed the developmental course sequence in reading, English and mathematics with a grade of D or higher. Eighty percent of the 46 students who completed the developmental sequence passed at least one college-level English course, and 43 percent passed both a college-level English and mathematics course.

The population had greater success in passing college-level English courses than in passing college-level mathematics courses. Of the one hundred sixty-four students enrolled in English 051, one hundred sixteen students (71 percent) completed the course and fifty-nine of the one hundred sixteen students (51 percent) passed a subsequent college-level English course. Of the one hundred sixty-four students who initially enrolled in a developmental mathematics course, 32 percent of the students completed the developmental mathematics courses, and 13 percent of the population successfully completed a subsequent college-level mathematics course. Baranchik and Ladas (1977) and Benenson (1974) reported on student performance in developmental English and mathematics courses. Baranchik and Ladas found that passing the

developmental courses was the single most significant factor in retention of freshmen developmental students entering Hunter College in 1974. Benenson found no evidence to support a conclusion of improvement in mathematics competency for the 123 developmental students whom he studied. Benenson found little evidence to conclude there was improvement in the writing competency of the students. Neither Baranchik and Ladas nor Benenson, however, reported on the students' performance in subsequent mathematics and English courses.

The analysis of the completion rate of the English and mathematics courses revealed that a large proportion of students who successfully completed one course in the English and mathematics sequence were not successful in the next higher level course; therefore, it is important that the College consider establishing learning objectives and specific entrance and exit criteria for each English and mathematics course. The exit criteria for each course should be a specified score on a departmental examination.

In the distribution of developmental and college-level English and mathematics grades, only 51.2 percent of the grades received were passing grades. In the distribution of English grades, 60.8 percent were passing; and in the distribution of mathematics grades, 43.6 percent were passing. The percentage of Y grades (Grading Policy, Appendix I) in the mathematics courses and the fact that fewer students attempted and successfully completed a college-level mathematics course give some indication that students have more difficulty with mathematics courses than English courses. Since a grade of C or higher is required to enroll in the next higher level course in both the English and math sequences, and since a Y grade does not lower their grade point average

as would a D grade, students probably request Y grades; therefore, there are few D grades in the grade distribution.

The relationship between the students' performance in completing credits attempted during their first semester of attendance and their cumulative performance in completing credits attempted did not change. At the end of the first semester attended, the student population completed an average of 64 percent of the credits they attempted. At the end of the last semester they attended, they completed an average of 64 percent of their cumulative credits attempted. The pattern of completed credits in relation to attempted credits for each of the last semesters attended (Table 18, page 51) does not reveal a reason for this finding. Further research is indicated.

Regardless of the number of semesters attended, the mean grade point average was lower for the last semester attended (1.76) than at the end of the first semester attended (2.42). This corresponds favorably with Snyder and Blocker (1970) and Roueche and Kirk (1974).

Snyder and Blocker's subjects earned an average of 2.12 on a 4.00 scale during their initial term and a final grade point average of 1.78. Roueche and Kirk's developmental students earned an average of 2.66 at the end of the first semester enrolled and 1.93 at the end of the third semester.

The first semester grade point average seems to be positively related to the staying power of the students. The higher the first semester mean grade point average, the higher the number of semesters the students stayed, up to and including the sixth semester. This finding compared favorably to the Carney and Geis findings (1981) that the best predictor of retention was first semester grade point average.

During the first semester of attendance, the mean cumulative credits attempted by the students was 12.4 credits. Nine of these course credits were in English 001, English 051 and in a developmental mathematics course. The remaining course credits were in any courses which the curriculum counselor and the student chose, usually human development courses, physical education courses and/or other courses without prerequisites in which the counselor believed the student had a reasonable chance for success. Even with placement testing and careful scheduling, a large proportion of these developmental students began their college experience with a low grade point average and, for the most part, did not recover. Generally they did not successfully complete the developmental sequence of courses. Of those who did complete the developmental courses, few successfully completed college-level mathematics and English courses.

Since a large proportion of these students (1) earned low and failing grades; (2) ended their first semester in academic difficulty; (3) were placed on academic probation and suspension; and (4) had a high rate of repeated courses, the College may want to design learning modules for each course using the techniques of mastery and individualized learning. Individualized and mastery learning provide an opportunity for students to learn material at their own rate of speed and provide them with an opportunity to experience success in a learning situation. Students differ in learning rate. Mastery learning holds achievement levels constant and varies time. Self-paced, individualized learning modules permit students to master one module before moving on to another. Students then may earn A grades rather than D and F grades. There is a body of evidence suggesting that students differ in cognitive

learning styles and teachers teach in different cognitive styles.

A group of the faculty at Harrisburg Area Community College have already been introduced to the concept of cognitive mapping. Using a modified form of cognitive mapping for the developmental program participants may maximize students' opportunities for success in the developmental courses.

Comparison of Groups A and B

The characteristics of the students who successfully completed the developmental course sequence (Group A) differed from the characteristics of the students who did not complete the developmental courses (Group B) on the variables of age, ethnic background, financial aid status, high school from which student graduated, and curriculum in which enrolled. There was no difference in sex identification. The 18-19 year old males had greater success in completing the developmental course sequence than the other age groups. Group A had fewer blacks (28 percent) than Group B (40 percent). Blacks comprised 37 percent of the population and 28 percent of the group which successfully completed the developmental course sequence. Further research is indicated to learn why the blacks were less successful than the other ethnic groups in completing the developmental course sequence. In the comparison of high schools from which students graduated, the greatest difference between the two groups can be seen in the graduates of city schools. Thirty-three percent of Group B graduated from city schools as compared to 8.7 percent of Group A. The findings in this study show no reason why this occurred. A larger percentage of Group A received financial aid (67 percent) compared to 51 percent of Group B. The financial aid received by the students in Group A may have been an important factor

in their persisting long enough to complete the developmental course sequence. Slightly more than 45 percent of the student questionnaire respondents stated that they left the College for financial reasons. Additional research is necessary to determine if receipt of financial aid is positively related to persistence and to successful completion of the developmental sequence of courses.

Group A students comprised the larger share of Business and Life Science students. Group A comprised 46 percent of the Business students and 20 percent of the Life Science students compared to 31 percent and 7 percent, respectively, for Group B. A larger percentage of Group B students were enrolled in the Liberal Studies (25 percent), Mathematics and Science (8 percent), Social Sciences (14 percent) and Public Safety (8 percent) curricula compared to 11 percent, 4 percent, 9 percent and 4 percent, respectively, for Group B.

The students in Group A attempted twice as many credits and earned more than three times as many credits as Group B. Group A completed 78 percent of the credits attempted and Group B completed 47 percent of the credits attempted. Group A completed the first semester with a higher mean grade point average, 2.60, than the 1.53 mean grade point average of Group B. Both groups had lower mean grade point averages during the last semester than during the first. At the end of the last semester attended, Group A had a cumulative mean grade point average of 2.24 and Group B, 1.12.

Of the forty-six students in Group A, 58.7 percent needed three or four semesters to complete the developmental course sequence. This is an important finding for developmental educators since many developmental programs are one summer session, one semester or one year in

length. This finding is consistent with Maxwell (1979) who cited impossible expectations as one of the factors that causes developmental courses to be evaluated as failures. She found that the academically weakest students were placed in courses or programs which were six weeks to one term in length. The expectation often implied in curriculum schedules is that the program or course will raise the students' level of proficiency to that of regular admits.[45]

The purpose of the developmental courses is to prepare students for college-level courses. The students' performance in the college-level courses would seem to be an indicator of the effectiveness of the developmental courses. However, 89 percent of the students needed more than two semesters to complete the developmental course sequence, and 70.7 percent of the students left the College by the end of the third semester without having attempted college-level English and mathematics courses. This was particularly true of the mathematics sequence. In addition to the attrition rate, the grade distribution tables show that of the 1,335 grades the students earned in the English and mathematics sequence, only 241 of the grades were in college-level courses. If students do not attempt college-level courses, it becomes difficult to determine if the developmental courses prepare the students to successfully complete college-level mathematics and English courses.

Since a large proportion of these developmental students needed three or four semesters to complete the developmental sequence, the counselors need to have a realistic expectation of the amount of time this type of developmental student requires to develop proficiency in

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[45]Maxwell, Op. cit., p. 23.

reading, English and mathematics. This expectation should be discussed with the student at the initial registration interview because students often assume they will need only one semester of developmental course work. Furthermore, having learned that these students need more than one semester to complete a course, and that the traditional credit hour/honor point model leads to academic probation and suspension, the College should consider planning and implementing a transition school or institute using a model other than the traditional credit hour/semester model. The College should consider developing a school curriculum consisting of an intensive program in reading, English, mathematics, and courses in human development such as courses in decision making, human potential, study skills and interpersonal relationships. The school would be administered by the College and staffed with persons trained to work with the developmental student.

A surprising finding in this study is that there was no difference in the mean entry reading grade level of the students who successfully completed the developmental courses and those who did not. Group A had a mean reading grade level at matriculation of 8.8 grade compared to 8.9 for Group B. This finding is not consistent with Maxwell (1979), Broadbent (1977) and Carney and Geis (1981) who found that reading grade level at time of entry was related to successful completion of developmental course work. Broadbent found that the lower the reading grade level, the less likely students were to complete the developmental courses.

Persistence of the Student Population

Persistence is measured in this study by the number of semesters

completed by the students subsequent to the semester of matriculation. The persistence rate for this select group of developmental students was comparable to the persistence rate reported by Tudor, Cohen and Schaier (1977). Tudor et al reported that 75 percent of the developmental students at Bronx Community College enrolled for the second semester. Approximately 75 percent of the students in this study also enrolled for a second semester. These retention rates are similar to those reported in the literature, Snyder and Blocker (1970); Roueche and Kirk (1974); Tudor, Cohen and Schaier (1977); and Rank (1979). These authors, however, do not give reasons why students left the institutions. It is important to note that 38.4 percent of the one hundred sixty-four developmental students in this study were college-imposed withdrawals. The academic suspension and financial hold policies of the College impinged upon the students' decision to stay or leave. Nearly as many students were dismissed under the policies (38.4 percent) as the number who chose to drop out (40.8 percent). The questionnaire responses were consistent with this finding. One-third of the questionnaire respondents stated that academic suspension was the reason why they left the College. Fifty-four percent stated that inadequate achievement was somewhat or very important. This finding does not compare favorably with Ferrin (1971) who found that 9 percent of the 34,900 enrollees in one hundred eighty Midwestern community colleges left the colleges because of lack of academic progress.[46]

Another important factor in the students' decision to leave the College was financial difficulties; 45.8 percent of the respondents

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[46]Ferrin, Loc. cit.

stated that financial difficulties were a very important factor in their decision to leave the College, and 12.5 percent of the respondents felt it was somewhat important. Of the students who left the College during the first semester, 37.5 percent were not permitted to return because of the financial hold policy. In addition, students reported that financial difficulties were an important factor in their decision to leave the College. The College may want to provide special seminars on financial aid resources for the developmental students during their first semester of attendance. This may prevent students from leaving the College because of financial difficulties.

Although having a clear educational goal is generally accepted as a reason why students stay in college (Brown, 1970; Pauk, 1974; Astin, 1975; and Cope and Hannah, 1975), this is not true for the group of students who responded to the questionnaire. Seventy-nine percent of the studert respondents who left the College (Group 2), said they had a clear educational goal as compared to 52.2 percent of the respondents who continued to persist (Group 1).

All the students in the study stated that they were degree-seeking students on their application for admission to the College, but 31 students of the 47 respondents stated that they had no educational goal when they entered the College. Apparently the students did not make an association between a degree and an educational goal or they felt that they were expected to state that they were seeking a degree.

There was little difference between Groups 1 and 2 in the way they responded to their certainty about a career goal; 47.8 percent of Group 1 were certain about a career goal and 54.2 percent of Group 2 were certain.

Generally, students who work on campus and/or participate in student activities feel as though they are part of the institution and tend not to drop out of the College (Brown, 1970; Pauk, 1974; Astin, 1975; and Cope and Hannah, 1975). Because they feel that they are part of the institution, they tend not to feel isolated. Students who form a close relationship with a faculty member, counselor or some other person on campus also develop a feeling of belonging and tend not to feel isolated. Thirteen percent of the student respondents in Group 1 had on-campus employment. None of the Group 2 respondents had on-campus employment. Of the Group 1 respondents, 21.7 percent participated in student activities as compared to 12.5 percent of the Group 2 respondents. Of the five students in Group 1 who were interviewed, three believed they persisted because a person or persons on campus gave them encouragement. Further research with a larger sample of students needs to be conducted to determine if working on campus and/or participating in student activities makes a difference in the students' decision to stay or leave the College.

In general, the students in both groups reported that they had good study practices, but their performance shows little evidence that they did. Few of the students reported using the Writing Center and Mathematics Clinic regularly. The Writing Center and Mathematics Clinic are components of a learning laboratory staffed with faculty and tutors to provide academic assistance to students. For some reason, the majority of students in both groups chose not to avail themselves of this service. Perhaps, scheduled sessions in the Learning Center should be mandatory. Further study is indicated to determine why the clinics were not used more frequently.

Generally, the students in Group 1 expressed very much satisfaction with their developmental English courses and the mathematics course which is equivalent to high school Algebra I. Of the forty-one students in Group 1, 65.2 percent were very much satisfied with the developmental English courses and 60.9 percent were very much satisfied with the Algebra I course. This finding is consistent with Roueche and Kirk (1974) who found that 70 percent of the developmental students whom they studied expressed satisfaction with the instructional component of the developmental program.[47]

Of the one hundred sixty-four students in the study, 25 percent were still enrolled as of May, 1981 (Group 1). Thirty percent of the students who responded to the questionnaire said they persisted because they just wanted a better education, 26 percent persisted in order to please their parents, and 17 percent persisted because they needed more education for challenging employment opportunities.

Students who left the institution (Group 2) reported that they worked an average of 28 hours per week. This is an excessive number of working hours for full-time students to work, especially for those with a history of poor academic achievement. The students reported that they left the College to take employment because of financial difficulties, and because of poor academic performance. Three-fourths of the students chose employment as an important factor in their decision to leave the College. Fifty-eight percent stated that financial difficulty was an important factor, and 54.2 percent felt that inadequate achievement was an important factor.

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[47]Roueche and Kirk, Op. cit., p. 58.

The principal conclusion which can be drawn from this study is that these developmental students have little academic success in the developmental program as it presently exists. The pattern of low grade point averages, suspensions, failing grades, repeated courses, and the length of time necessary to complete the developmental courses indicates that these students are academically exhausted getting ready for their college-level mathematics and English courses. For this group of students, the "open-door" did, in fact, become a "revolving door."

Implications for the College

Since this group of students had little academic success in the developmental program as it presently exists and since the College is considering major changes in the program, the following suggestions are offered to the program planners:

1. At the present time, the developmental program does not have clearly defined objectives; therefore, specific program objectives should be established.

2. There is a lack of formal evaluation of the developmental program; therefore, the College should implement a systematic formal evaluation program.

3. Each semester, the specific characteristics of the successful students and the drop-outs should be documented and analyzed for predictive purposes.

4. Before any changes are made in the developmental program or developmental courses, formative evaluation studies should be conducted to determine which elements contribute to the effectiveness of the program and which elements need improvement.

5. The College should plan and implement a transitional school or institute using a model other than the traditional credit hour/semester model. The College should consider developing a school curriculum consisting of an intensive program in reading, English, mathematics, and courses in human development. The school would be located on the campus, administered by the College and staffed with persons trained to work with the developmental student. An ideal program would include the following components: (1) enthusiastic staff who believe students want to and can learn; (2) self-paced learning modules; (3) multi-media instructional systems; (4) cognitive mapping; (5) human development courses taught by counselors; (6) college-sponsored residence; and (7) specific integration of students and the program with the people and activities of the total college community.

Recommendations for Further Research

On the basis of the findings and conclusions of this study, the following recommendations for further research are made.

1. A larger proportion of the students who persisted worked on campus or participated in student activities than the students who did not persist. Further research is needed to determine if working on campus and/or participating in student activities are positively related to academic performance and persistence.

2. Of the students in Groups 1 and 2 who responded to the questionnaire, few reported that they regularly used the Learning Center. Therefore, the College should attempt to learn the reasons students give for not using the Center.

3. The finding that there was no difference in the mean entry

reading grade level of the students who successfully completed the developmental course sequence and those who did not complete the sequence is inconsistent with the literature. Therefore, this component of the study should be repeated using a larger sample of students.

4. The students had little success in completing the mathematics courses. Research needs to be done to learn (1) if there is a correlation between reading grade level and successful completion of mathematics courses; (2) if successful completion of mathematics courses is related to retention; and (3) if there is a correlation between the Mathematics Placement Test and successful completion of mathematics courses.

5. Students who successfully completed the developmental course sequence differed from those students who did not complete the sequence by sex, ethnic background, high school from which graduated, and receipt of financial aid. Research needs to be done to learn if any of these non-intellectual factors are significantly related to successful completion of the developmental course sequence.

6. The population of this study is a narrowly defined group of developmental students at Harrisburg Area Community College. This study needs to be repeated using a population of students who initially enrolled in two or more developmental courses.

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APPENDIX A. Placement Testing

A. Regulations

1. Testing will not be a requirement for admission to HACC. Placement testing will take place after the student is admitted.

2. All new degree students will be tested in both math and reading/English before enrollment except those enrolled in curricula which do not have a math requirement.

3. All other students will be tested in math or English before taking a course in either discipline.

4. Students who present scores from the SAT, PSAT, ACT, Stanford Test of Academic Achievement or other standardized tests need not be tested further but can be placed on the basis of these scores.

5. The Nelson-Denny Test will be used to determine initial placement in both the reading courses and the English courses except as noted in #4.

6. The HACC Math Placement will be used to determine placement in math courses except as noted in #4.

B. Procedures

1. The student will be admitted before placement testing is administered.

2. New degree students. Before enrolling, students without standardized test scores will take both the Nelson-Denny reading test and 1-4 parts of the HACC Math Placement. The following procedures will be followed:

   (a) Students who have not presented appropriate test scores for placement will be notified by letter of the need for taking the test(s). The letter will also state instructions for making arrangements for the test(s), as well as a registration appointment if desired.

   (b) The student will contact the College and schedule a time to take the tests. The student may make a scheduling/registration appointment for the same day, or other time following the test.

   (c) The student takes the Nelson-Denny (30 min.) and 1-4 parts (as determined by an evaluation of the student's record) of the HACC Math Placement test (30 min.).

APPENDIX A. Placement Testing

(d) Tests are scored immediately.

(e) The student may schedule classes with a counselor after the test is scored as arranged previously (b), or upon appointment, or on a walk-in basis (waiting period for student is anticipated).

(f) The student is enrolled. Further screening by the instructor may occur at the outset of each class.

3. Other Students. Before enrolling in an English or math course, students will be tested in these areas. The following procedures will apply:

(a) Before enrolling a student in any English or math course, the counselor/advisor will check to see if the Nelson-Denny of math score (as appropriate) is on record.

(b) If scores are not available, students will be referred to CC-223 for testing on a "walk-in" basis.

(c) Advisors will apply approved cutoff scores in placing students.

APPENDIX A. Placement Testing Guidelines

Reading, English 001 - Use of Nelson-Denny, Form C

11.6	No reading course requirement
10.6-11.5	Student is advised by counselor (unless student's record clearly indicates otherwise) to enroll in English 001 before or concurrent with taking any English course or any other course which requires extensive reading, these courses to be identified by the divisions in which they are taught.
0-10.5	English 001 required before or concurrent with any English course or any other course which requires extensive reading, these courses to be identified by the divisions in which they are taught.

Writing, English 051-101

11.6	Student initially placed in English 101
0-11.5	Student initially placed in English 051

Math Cutoffs, Form C

Math	Part I	Part II	Part III	Part IV
010	less than 4			
001 or 011	5 or more	less than 4 (4 or 5*)		
051	5 or more	6 or more	less than 4 (4 or 5*)	
103 or 109	5 or more	7 or more	6 or more	less than 4 4*
119	5 or more	8 or more	8 or more	5 or more

*Students with this score should be placed in the course to the left unless other factors indicate a good chance for success at the next level.

APPENDIX B

Number of Developmental Student Matriculants

1965-66			
	Summer 1965	17	
	Fall 1965	140	
	Spring 1966	—	
	Total		157
1966-67			
	Summer 1966	104	
	Fall 1966	47	
	Spring 1967	44	
	Total		195
1967-68			
	Summer 1967	192	
	Fall 1967	73	
	Spring 1968	59	
	Total		324
1968-69			
	Summer 1968	231	
	Fall 1968	128	
	Spring 1969	52	
	Total		411
1969-70			
	Summer 1969	237	
	Fall 1969	160	
	Spring 1970	91	
	Total		488 Snyder/Blocker 1970
1978 Fall			830
1979 Fall			850
1980 Fall			1,057

APPENDIX C

Number of Developmental Students Who are Degree-Seeking and Lack Proficiency in Reading, English and Mathematics

Year	Students
1977-78	44
1978-79	51
1979-80	70
1980-81	105

APPENDIX D. Student Questionnaire, Group 1

I. Circle the answer which best describes your thoughts about your developmental courses.

	SCALE		
	Very Much	Some	Very Little
A. English 001, Reading			
1. The course improved my reading skill.	1	2	3
2. The course prepared me to read college textbooks.	1	2	3
3. I was satisfied with the course.	1	2	3
4. Comments: _____			
_____			
B. English 051, Grammar			
1. The course improved my writing skill.	1	2	3
2. The course prepared me for English 101.	1	2	3
3. I was satisfied with the course.	1	2	3
4. Comments: _____			
_____			
C. Mathematics 010, 011, 012, 013 or 001			
1. The course improved my skill in math.	1	2	3
2. The course prepared me for 051 math.	1	2	3
3. I was satisfied with the course.	1	2	3
4. Comments: _____			
_____			
D. Mathematics 051			
1. The course improved my math skill.	1	2	3
2. The course prepared me for college-level math.	1	2	3
3. I was satisfied with the course.	1	2	3
4. Comments: _____			
_____			

II. Circle the answer which best describes your academic behavior.

	SCALE			
	Always	Usually	Some-times	Seldom
A. Study Habits				
1. I went to reading class.	1	2	3	4
2. I did my reading assignments.	1	2	3	4
3. I went to English 051 class.	1	2	3	4
4. I did my writing assignments.	1	2	3	4
5. I used the Writing Center.	1	2	3	4
6. I went to math class.	1	2	3	4
7. I did my math assignments.	1	2	3	4
8. I used the Math Clinic.	1	2	3	4
9. I turned assigned work in on time.	1	2	3	4
10. I had a regular time to study.	1	2	3	4

APPENDIX D. Student Questionnaire, Group 1

	SCALE			
	Always	Usually	Some-times	Seldom
11. I had a regular place to study.	1	2	3	4
12. I was too bored to study.	1	2	3	4
13. I couldn't concentrate when I tried to study.	1	2	3	4
14. I could not study because of personal problems.	1	2	3	4
15. I was disappointed with my academic performance.	1	2	3	4

B. Please complete the following general questions concerning your education.

	CIRCLE ONE ANSWER	
1. When I entered HACC, I had a definite educational goal.	Yes	No
2. When I entered HACC, I was uncertain about a career goal.	Yes	No
3. While enrolled at HACC, I worked on campus.	Yes	No
If yes, number of hours per week. _____		
4. While enrolled at HACC, I worked off campus.	Yes	No
If yes, number of hours per week. _____		
5. I participated in student activities.	Yes	No
If yes, please list activities. _____		
_____		
_____		
6. Did any one course help you with your studies more than other courses? If yes, which one? _____	Yes	No

C. Below is a list of reasons why students leave college. Rate each reason why you discontinued your education.

Circle one:

	Very Important	Somewhat Important	Little Importance	No Importance
Employment	1	2	3	4
Marriage	1	2	3	4
Lack of interest	1	2	3	4
Financial difficulties	1	2	3	4
Inadequate achievement	1	2	3	4
Academic suspension	1	2	3	4
Illness	1	2	3	4
Residency problem	1	2	3	4
VA regulations	1	2	3	4
Transferred to another college	1	2	3	4

Other _____

In what ways could HACC have been of more assistance to you in completing your educational goal? (Please be specific.)

APPENDIX D. Student Questionnaire, Group 2

I. Circle the answer which best describes your thoughts about your developmental courses.

	SCALE		
	Very Much	Some	Very Little
A. English 001, Reading			
1. The course improved my reading skill.	1	2	3
2. The course prepared me to read college textbooks.	1	2	3
3. I was satisfied with the course.	1	2	3
4. Comments: _____			
_____			
B. English 051, Grammar			
1. The course improved my writing skill.	1	2	3
2. The course prepared me for English 101.	1	2	3
3. I was satisfied with the course.	1	2	3
4. Comments: _____			
_____			
C. Mathematics 010, 011, 012, 013 or 001			
1. The course improved my skill in math.	1	2	3
2. The course prepared me for 051 math.	1	2	3
3. I was satisfied with the course.	1	2	3
4. Comments: _____			
_____			
D. Mathematics 051			
1. The course improved my math skill.	1	2	3
2. The course prepared me for college-level math.	1	2	3
3. I was satisfied with the course.	1	2	3
4. Comments: _____			
_____			

II. Circle the answer which best describes your academic behavior.

	SCALE			
	Always	Usually	Some-times	Seldom
A. Study Habits				
1. I went to reading class.	1	2	3	4
2. I did my reading assignments.	1	2	3	4
3. I went to English 051 class.	1	2	3	4
4. I did my writing assignments.	1	2	3	4
5. I used the Writing Center.	1	2	3	4
6. I went to math class.	1	2	3	4
7. I did my math assignments.	1	2	3	4
8. I used the Math Clinic.	1	2	3	4
9. I turned assigned work in on time.	1	2	3	4
10. I had a regular time to study.	1	2	3	4

APPENDIX D. Student Questionnaire, Group 2

	SCALE			
	Always	Usually	Some-times	Seldom
11. I had a regular place to study.	1	2	3	4
12. I was too bored to study.	1	2	3	4
13. I couldn't concentrate when I tried to study.	1	2	3	4
14. I could not study because of personal problems.	1	2	3	4
15. I was disappointed with my academic performance.	1	2	3	4

B. Please complete the following general questions concerning your education.

	CIRCLE ONE ANSWER	
1. When I entered HACC, I had a definite educational goal.	Yes	No
2. When I entered HACC, I was uncertain about a career goal.	Yes	No
3. While enrolled at HACC, I worked on campus.	Yes	No
If yes, number of hours per week. _____		
4. While enrolled at HACC, I worked off campus.	Yes	No
If yes, number of hours per week. _____		
5. I participated in student activities.	Yes	No
If yes, please list activities. _____		
_____		
_____		
6. Did any one course help you with your studies more than other courses? If yes, which one? _____	Yes	No

C. You began HACC with developmental courses and continued to persist in trying to meet your educational goal. What do you believe are the major reasons why you persisted? (Please be specific.)

APPENDIX E

Table 1. Grade Distribution, One-Semester Persisters

N = 40	English	001	051	Math	010	011	012	013	020	051	1
	A	2	0		0	1	0	0	0	1	
	B	3	4		1	1	2	0	0	0	
	C	4	8		1	9	2	0	0	0	
	D	7	3		1	0	0	0	0	1	
	F	13	10		1	3	2	0	2	2	
	I	0	0		0	0	1	1	0	0	
	Y	1	3		1	5	7	8	0	0	
	W	10	12		5	11	16	11	0	2	
# Grades		40	40		8	30	30	20	2	6	
# Students Passed		16	15		3	11	4	0	0	1	
% Passed Courses		40	38		38	37	13	0	0	33	

APPENDIX E

Table 2. Grade Distribution, Two-Semester Persisters

N = 41	English			Math								
	001	051	101	010	011	012	013	020	051	100	111	103
A	7	4	0	0	1	1	1	0	1	0	0	0
B	8	8	0	1	6	3	2	0	3	0	0	0
C	9	8	7	7	6	5	3	0	1	0	0	0
D	5	8	0	0	0	2	0	2	1	0	0	0
F	20	12	4	6	6	1	0	3	9	2	1	1
I	1	4	1	0	0	0	0	0	0	0	0	0
Y	1	3	0	4	10	14	12	2	3	0	0	0
W	7	7	4	4	8	15	9	1	1	0	0	0
# Grades	58	54	16	22	37	41	27	8	19	2	1	1
# Who Took Course	41	41	16	17	30	30	21	6	14	1	1	1
# Students Passed	26	25	7	8	18	11	6	2	6	0	0	0
% Students Passed	63	61	44	47	43	37	29	33	43	0	0	0

APPENDIX E

Table 3. Grade Distribution, Three-Semester Persisters

	English				Math										
N = 35	001	051	101	102	010	011	012	013	020	051	100	111	103	104	109
A	4	2	1	1	0	4	1	1	1	0	0	0	1	0	0
B	11	15	4	4	3	7	7	6	1	6	0	0	1	1	0
C	13	14	9	2	1	10	7	6	1	10	0	0	5	1	1
D	6	1	4	2	0	1	0	0	2	7	0	0	3	0	0
F	7	2	14	0	0	1	4	4	0	5	1	0	3	1	1
I	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Y	8	7	0	0	0	2	9	12	1	0	0	0	0	0	0
W	0	2	8	2	0	5	9	13	2	2	1	0	0	1	0
# Grades	50	43	41	11	4	30	37	42	8	32	2	0	13	4	2
# Who Took Course	35	35	29	11	4	25	25	23	8	21	2	0	11	3	2
# Students Passed	31	31	16	9	4	21	15	13	5	19	0	0	8	2	1
% Students Passed	89	89	55	82	100	84	60	60	63	90	0		73	67	50

APPENDIX E

Table 4. Grade Distribution, Four-Semester Persisters

	English				Math												
N = 24	001	051	101	102	010	011	012	013	020	051	100	111	114	103	104	109	1
A	6	3	[illegible]	2	0	3	2	2	0	1	0	0	0	0	0	0	
B	8	8	5	3	0	5	5	2	1	2	0	0	0	0	0	0	
C	7	11	8	5	3	8	7	8	2	4	0	0	0	3	0	1	
D	1	2	4	2	1	1	0	0	1	6	1	0	0	2	0	0	
F	1	2	9	1	0	1	1	4	2	11	0	0	1	2	0	0	
I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Y	9	1	0	0	3	3	11	15	0	4	0	0	0	0	0	0	
W	0	2	2	2	0	0	1	1	1	5	0	0	0	0	0	0	
# Grades	32	29	29	15	7	21	27	32	7	33	1	0	1	7	0	1	
# Who Took Course	24	24	22	13	4	17	17	16	6	20	1	0	0	6	0	1	
# Students Passed	22	22	16	11	3	16	14	12	3	10	1	0	0	4	0	1	
% Students Passed	92	92	73	85	75	94	82	75	50	50	100	0	0	67	0	100	

APPENDIX E

Table 5. Grade Distribution, Five-Semester Persisters

	English				Math										
N = 7	001	051	101	102	010	011	012	013	020	051	100	111	103	104	109
A	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0
B	4	5	1	1	0	4	1	2	0	2	0	0	0	0	1
C	3	1	3	5	1	1	3	2	0	4	0	0	1	1	0
D	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1
F	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Y	5	0	0	0	0	0	1	5	0	0	0	0	0	0	0
W	0	0	1	1	0	0	0	1	0	2	1	0	1	1	0
# Grades	13	7	8	7	1	5	6	10	0	8	1	0	2	2	3
# Who Took Course	7	7	7	7	1	5	5	5	0	7	1	0	2	2	3
# Students Passed	7	7	6	6	1	5	5	4	0	6	0	0	1	1	2
% Students Passed	100	100	86	86	100	100	100	80	0	86	0	0	50	50	67

APPENDIX E

Table 6. Grade Distribution, Six-Semester Persisters

	English				Math														
N = 13	001	051	101	102	010	011	012	013	020	051	100	111	103	104	109	110	121	122	202
A	5	4	0	2	0	5	1	2	0	0	0	0	0	0	0	0	0	0	0
B	4	6	1	1	2	4	3	2	0	3	0	0	1	1	0	0	1	0	0
C	4	3	9	6	2	3	7	6	0	2	0	0	0	0	1	0	0	0	0
D	2	0	3	1	0	0	1	0	0	1	1	1	0	0	0	1	0	0	0
F	3	0	3	1	0	0	0	2	0	6	1	0	3	1	2	1	1	0	1
I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Y	7	2	0	0	0	3	8	9	0	0	0	0	2	0	0	0	0	0	0
W	0	1	2	3	0	0	2	3	1	2	1	0	0	0	1	0	0	1	0
# Grades	25	16	18	14	4	15	22	24	1	14	3	1	6	2	4	2	2	1	1
# Who Took Course	13	13	13	12	4	13	13	13	1	10	3	1	4	2	3	1	2	1	1
# Students Passed	13	12	11	9	4	12	10	10	0	5	1	1	2	1	1	1	1	0	0
% Students Passed	100	92	85	64	100	92	77	77	0	50	33	100	50	50	33	100	100	0	0

APPENDIX E

Table 7. Grade Distribution, Seven-Semester Persisters

	English				Math														
N = 3	001	051	101	102	010	011	012	013	020	051	100	111	103	104	109	110	121	122	20
A	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
B	1	1	1	1	0	2	2	0	0	1	0	0	0	0	0	0	0	0	
C	0	2	1	2	0	1	1	2	0	1	0	0	1	0	0	0	0	0	
D	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	
F	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	
I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Y	0	1	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	
W	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	
# Grades	3	4	5	3	0	3	4	8	0	6	0	0	3	0	0	0	0	0	
# Who Took Course	3	3	3	3	0	3	3	3	0	3	0	0	3	0	0	0	0	0	
# Students Passed	3	3	3	3	0	3	3	3	0	3	0	0	2	0	0	0	0	0	
% Students Passed	100	100	100	100	0	100	100	100	0	100	0	0	67	0	0	0	0	0	

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Table 8. Grade Distribution, Eight-Semester Persisters

	English				Math								
N = 1	001	051	101	102	010	011	012	013	020	051	100	111	103
A	0	0	0	1	0	0	0	0	0	0	0	0	0
B	1	1	1	0	0	1	0	0	0	0	0	0	0
C	0	0	0	0	0	0	1	1	0	1	0	0	0
D	0	0	0	0	0	0	0	0	0	0	0	0	0
F	0	0	0	0	0	0	0	0	0	2	0	0	0
I	0	0	0	0	0	0	0	0	0	0	0	0	0
Y	1	0	0	0	0	1	1	2	0	1	0	0	0
W	0	0	0	0	0	1	1	1	0	2	0	0	0
# Grades	2	1	1	1	0	3	3	4	0	6	0	0	0
# Who Took Course	1	1	1	1	0	1	1	1	0	1	0	0	0
# Students Passed	1	1	1	1	0	1	1	1	0	1	0	0	0
% Students Passed	100	100	100	100	0	100	100	100	0	100	0	0	0

APPENDIX E

Table 9. Grade Distribution of English and Mathematics Courses Taken by Student Population

	English				Math														
	001	051	101	102	010	011	012	013	020	051	100	111	103	104	109	110	121	122	202
A	26	14	3	6	0	14	6	6	1	3	0	0	1	0	0	0	0	0	0
B	39	48	13	10	7	30	23	14	2	17	0	0	2	2	1	0	1	0	0
C	40	47	37	20	15	38	33	28	3	23	0	0	10	2	3	1	0	0	0
D	21	14	13	5	2	2	2	1	5	17	2	1	6	0	1	2	0	0	0
F	44	26	33	2	7	11	9	10	7	37	5	1	9	2	4	1	1	0	1
I	2	4	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0
Y	34	17	0	0	8	24	52	67	3	10	0	0	2	0	0	0	0	0	0
W	17	24	17	8	7	25	44	40	5	17	4	0	2	2	1	0	0	1	1
	223	194	118	51	46	144	170	167	26	124	11	2	32	8	10	4	2	1	2

English			Math			English/Math		
	N	%		N	%		N	%
A	49	8.4	A	31	4.1	A	80	6.0
B	110	18.8	B	99	13.2	B	209	15.7
C	144	24.6	C	156	20.8	C	300	22.5
D	53	9.0	D	41	5.5	D	94	7.0
F	105	17.9	F	105	14.0	F	210	15.7
I	8	1.4	I	2	0.3	I	10	0.7
Y	51	8.7	Y	166	22.2	Y	217	16.3
W	66	11.3	W	149	19.9	W	215	16.1
Tot.	586	100	Tot.	749	100	Tot.	1335	100
60.8 passing			43.6 passing			51.2 passing		

APPENDIX E

Table 10. Grade Distribution Summary

	English				Math														
N = 164	001	051	101	102	010	011	012	013	020	051	100	111	103	104	109	110	121	122	202
# Grades	223	194	118	51	46	144	170	167	26	124	11	2	32	8	10	4	2	1	2
# Who Took Course	164	164	91	47	38	124	124	102	23	82	10	2	27	7	9	3	1	1	2
# Students Passed	119	116	60	46	23	82	63	49	10	51	2	1	17	4	5	3	1	0	0
% Students Passed	73	71	66	98	61	66	51	48	43	62	02	50	63	57	56	100	100	0	0
Repeats	59	30	27	4	8	20	46	65	3	42	1	0	5	1	1	1	1	0	0

APPENDIX F. Probation and Suspension Policies

Academic Probation

Each student who obtains less than a 2.00 grade point average at the midterm of a semester shall be given a warning as part of the mid-term grade report, calling attention to unsatisfactory academic achievement. Upon receipt of such a warning, the student should consult the advisor or a counselor about his/her academic problems.

A student who fails to maintain a 2.00 cumulative grade point average at the completion of a semester or summer session shall be placed on academic probation. While on academic probation, a student may not schedule more than four courses per semester, normally twelve credit hours, unless special exception is recommended by the chairperson of the division to which the student is assigned for academic advisement. The student shall be removed from academic probation when the cumulative grade point average rises to 2.00 or above.

Each student placed on probation will be notified by letter, a copy of which will be placed in the permanent record file. The student has the responsibility to consult with the division counselor in order to devise a plan for removing academic deficiencies. The plan may require the student to use individualized learning activities, tutorial aids, and other similar services provided by the College.

A transfer student whose grade point average at the previous college or colleges is less than 2.00 shall be admitted on academic probation if he/she wishes to continue in the same curriculum. A reverse transfer student on academic suspension from the previous college shall not be admitted to Harrisburg Area Community College until a period of one semester will have elapsed following last attendance

at the previous college. Thereafter the student may be admitted to Harrisburg Area Community College on probation. A transfer student admitted on academic probation is expected to maintain a 2.00 cumulative average in all work beginning with the first semester on campus or face academic suspension from the College.

Academic Suspension

A student must maintain a cumulative grade point average according to the following requirements to remain eligible for continued attendance at the College.

Cumulative Grade Point Average	Credit Hours Attempted
1.00	12
1.20	13-24
1.40	25-36
1.60	37-48
1.80	49-60
2.00	61 and above

Each student who earns less than a 2.00 grade point average at midterm shall be given a warning, calling his attention to his low achievement and possible academic suspension and reminding him of the standards set forth above. Upon receipt of such a warning, the student should consult his advisor or a counselor about his status.

A student who fails to meet the prescribed levels of cumulative grade point average at the completion of a semester or summer session will be suspended for a period of one semester, after which an appeal for readmission may be submitted. A full-time student may not be suspended at the end of the first semester of attendance, nor a part-time student before the completion of 12 credit hours.

APPENDIX F. Probation and Suspension Policies

Each student placed on academic suspension shall be notified by letter, a copy of which shall be placed in the permanent record file. A student providing evidence of extenuating circumstances may appeal the academic suspension. The appeal must be submitted in writing to the Director of Admissions no later than the third day of the semester following academic suspension. A student may be placed on academic suspension without first having been on academic probation if the minimum cumulative grade point average is not met in relation to the credit hours attempted.

APPENDIX G. Responses to Student Questionnaire, Group I

Students Attending Harrisburg Area Community College as of May 1981

N = 23

Part I: Developmental Courses	Very Much		Some		Very Little		Blank		N/A	
	N	%	N	%	N	%	N	%	N	%
A. English 001, Reading										
1. Improved my reading skill	10	43.5	10	43.5	1	4.3	2	8.7	0	0
2. Prepared me to read college textbooks	13	56.5	8	34.8	0	0	2	8.7	0	0
3. I was satisfied with the course	15	65.2	5	21.7	1	4.3	2	8.7	0	0
B. English 051, Grammar										
1. Improved my writing skills	13	56.5	6	26.1	2	8.7	1	4.3	1	4.3
2. Prepared me for English 101	12	52.2	7	30.4	1	4.3	2	8.7	1	4.3
3. I was satisfied with the course	15	65.2	5	21.7	1	4.3	1	4.3	1	4.3
C. Mathematics 010, 011, 012, 013 or 001										
1. Improved my skill in math	13	56.5	4	17.4	0	0	2	8.7	4	17.4
2. Prepared me for Math 051	14	60.9	3	13.0	0	0	2	8.7	4	17.4
3. I was satisfied with the course	14	60.9	2	8.7	1	4.3	2	8.7	4	17.4
D. Mathematics 051										
1. Improved my math skill	13	56.5	4	17.4	2	8.7	2	8.7	2	8.7
2. Prepared me for college-level math	12	52.2	4	17.4	2	8.7	3	13.0	2	8.7
3. I was satisfied with the course	10	43.5	6	26.1	2	8.7	3	13.0	2	8.7

Part II: A. Academic Behavior	Always		Usually		Sometimes		Seldom		Blank	
	N	%	N	%	N	%	N	%	N	%
1. I went to reading class	15	65.2	7	30.4	0	0	0	0	1	4.3
2. I did my reading assignments	15	65.2	5	21.7	2	8.7	0	0	1	4.3
3. I went to English 051 class	14	60.9	5	21.7	0	0	0	0	4	17.4
3. I did my writing assignments	17	73.9	3	13.0	1	4.3	0	0	2	8.7
5. I used the Writing Center	2	8.7	4	17.4	4	17.4	11	47.8	2	8.7
6. I went to math class	18	78.2	4	17.4	0	0	0	0	1	4.3
7. I did my math assignments	14	60.9	7	30.4	0	0	1	4.3	1	4.3
8. I used the Math Clinic	3	13.0	5	21.7	7	30.4	6	26.1	2	8.7
9. I turned assigned work in on time	18	78.2	5	21.7	0	0	0	0	0	0
10. I had a regular time to study	6	26.1	10	43.5	5	21.7	1	4.3	1	4.3
11. I had a regular place to study	7	30.4	14	60.9	1	4.3	0	0	1	4.3
12. I was too bored to study	0	0	0	0	13	56.5	9	39.1	1	4.3
13. I couldn't concentrate when I tried to study	1	4.3	0	0	15	65.2	6	26.1	1	4.3
14. I could not study because of personal problems	0	0	1	4.3	3	13.0	17	73.9	2	8.7
15. I was disappointed with my academic performance	1	4.3	2	8.7	12	52.2	7	30.4	1	4.3

APPENDIX G. Responses to Student Questionnaire, Group 1

Students Attending Harrisburg Area Community College as of May 1981

	Yes		No		Blank	
	N	%	N	%	N	%
B. 1. When I entered HACC, I had a definite educational goal	12	52.2	11	47.8	0	0
2. When I entered HACC, I was uncertain about a career goal	11	47.8	11	47.8	1	4.3
3. While enrolled at HACC, I worked on campus	3	13.0	20	87.0	0	0
4. While enrolled at HACC, I worked off campus	13	56.5	10	43.5	0	0
5. I participated in student activities	5	21.7	18	78.3	0	0
6. Did any one course help you with your studies more than other courses?	13	56.5	10	43.5	0	0

Students who worked while enrolled at HACC worked an average of 24 hours per week.

C. Reasons given why students persisted in trying to meet their educational goal: (Some students gave more than one reason)

	No. of Students
Needed more education for more challenging job	4
Just wanted a better education	7
To obtain what I missed in high school	2
Wanted to graduate from Penn State, HACC was a stepping stone	1
Encouraged by person/persons on campus	2
Study habits	1
To please parents	6
Time and money already expended	1
Just didn't want to stop	1
No answer given	1

APPENDIX H. Responses to Student Questionnaire, Group 2

Students No Longer Attending Harrisburg Area Community College

N = 24 Part I: Developmental Courses	Very Much		Some		Very Little		Blank		N/A	
	N	%	N	%	N	%	N	%	N	%
A. English 001, Reading										
1. Improved my reading skill	8	33.3	12	50.0	2	8.3	1	4.2	1	4.2
2. Prepared me to read college textbooks	4	16.7	11	45.8	2	8.3	6	25.0	1	4.2
3. I was satisfied with the course	8	33.3	9	37.5	1	4.2	5	20.8	1	4.2
B. English 051, Grammar										
1. Improved my writing skills	8	33.3	10	41.7	5	20.8	1	4.2	0	0
2. Prepared me for English 101	4	16.7	7	29.2	4	16.7	9	37.5	0	0
3. I was satisfied with the course	5	20.8	9	37.5	3	12.5	7	29.2	0	0
C. Mathematics 010, 011, 012, 013 or 001										
1. Improved my skill in math	12	50.0	3	12.5	4	16.7	1	4.2	4	16.7
2. Prepared me for Math 051	6	25.0	3	12.5	4	16.7	7	29.2	4	16.7
3. I was satisfied with the course	8	33.3	3	12.5	3	12.5	6	25.0	4	16.7
D. Mathematics 051										
1. Improved my math skill	10	41.7	2	8.3	2	8.3	5	20.8	5	20.8
2. Prepared me for college-level math	9	37.5	1	4.2	1	4.2	8	33.3	5	20.8
3. I was satisfied with the course	8	33.3	2	8.3	1	4.2	8	33.3	5	20.8

Part II: A. Academic Behavior	Always		Usually		Sometimes		Seldom		Blank	
	N	%	N	%	N	%	N	%	N	%
1. I went to reading class	14	58.3	5	20.8	1	4.2	2	8.3	2	8.3
2. I did my reading assignments	13	54.2	9	37.5	1	4.2	0	0	1	4.2
3. I went to English 051 class	11	45.8	8	33.3	1	4.2	1	4.2	3	12.5
4. I did my writing assignments	16	66.7	6	25.0	1	4.2	0	0	1	4.2
5. I used the Writing Center	3	12.5	3	12.5	7	29.2	6	25.0	5	20.8
6. I went to math class	15	62.5	6	25.0	1	4.2	0	0	2	8.3
7. I did my math assignments	15	62.5	5	20.8	2	8.3	0	0	2	8.3
8. I used the Math Clinic	3	12.5	3	12.5	11	45.8	5	20.8	2	8.3
9. I turned assigned work in on time	16	66.7	6	25.0	1	4.2	0	0	1	4.2
10. I had a regular time to study	6	25.0	8	33.3	7	29.2	3	12.5	0	0
11. I had a regular place to study	7	29.2	8	33.3	6	25.0	2	8.3	1	4.2
12. I was too bored to study	1	4.2	2	8.3	15	62.5	5	20.8	1	4.2
13. I couldn't concentrate when I tried to study	1	4.2	8	33.3	10	41.7	4	16.7	1	4.2
14. I could not study because of personal problems	1	4.2	3	12.5	10	41.7	9	37.5	1	4.2
15. I was disappointed with my academic performance	1	4.2	7	29.2	12	50.0	3	12.5	1	4.2

APPENDIX H Responses to Student Questionnaire, Group 2

Students No Longer Attending Harrisburg Area Community College

	Yes		No		Blank	
	N	%	N	%	N	%
B. 1. When I entered HACC, I had a definite educational goal	19	79.2	5	20.8	0	0
2. When I entered HACC, I was uncertain about a career goal	10	41.7	13	54.2	1	4.2
3. While enrolled at HACC, I worked on campus	0	0	23	95.8	1	4.2
4. While enrolled at HACC, I worked off campus	17	70.8	6	25.0	1	4.2
5. I participated in student activities	3	12.5	20	83.3	1	4.2
6. Did any one course help you with your studies more than other courses?	10	41.7	11	45.8	3	12.5

Students who worked while enrolled at HACC worked an average of 28 hours per week

C. Reasons for Discontinuing Education	Very Important		Somewhat Important		Little Importance		No Importance		Blank	
	N	%	N	%	N	%	N	%	N	%
1. Employment	11	45.8	7	29.2	2	8.3	2	8.3	2	8.3
2. Marriage	2	8.3	2	8.3	2	8.3	15	62.5	3	12.5
3. Lack of interest	4	16.7	7	29.2	4	16.7	6	25.0	3	12.5
4. Financial difficulties	11	45.8	3	12.5	3	12.5	5	20.8	2	8.3
5. Inadequate achievement	6	25.0	7	29.2	4	16.7	4	16.7	3	12.5
6. Academic Suspension	4	16.7	4	16.7	2	8.3	11	45.8	3	12.5
7. Illness	3	12.5	0	0	5	20.8	13	54.2	3	12.5
8. Residency problem	3	12.5	2	8.3	3	12.5	13	54.2	3	12.5
9. VA regulations	1	4.2	1	4.2	2	8.3	17	70.8	3	12.5
10. Transferred to another college	4	16.7	2	8.3	1	4.2	14	58.3	3	12.5

Other reasons given for not continuing education at the College:

	No. of Students
Could not decide on curriculum and/or career goal	5
Worked too many hours, too far to travel	1
Unhappy with course selection	1
Emotional instability	1
Transferred to another college	1
Didn't get enough help	1
Academic performance	1
Changed career goal	1
Family problems	1
Bored	1

APPENDIX I. Grading Policy

Harrisburg Area Community College uses the following grades, definitions, and grade point equivalents as its official marking system.

Letter Grade	Definition	Grade Points per Credit Hour
A	Superior	4.00
B	Good	3.00
C	Average	2.00
D	Passing	1.00
F	Failure	0.00
W	Official Withdrawal*	0.00
I	Incomplete Work **	0.00
Y	Work in Progress***	0.00
S	Audit (No credit)	0.00

*The use of the grade W embodies the following meanings:

1. The grade W is not to be construed as prejudicial to the student's record.
2. It does not count toward semester hours or grade points earned.
3. It has no effect on grade point average.
4. It does not reflect the reasons for withdrawal, merely the accomplished fact.
5. The course name and the grade W will be entered on the transcript.

*The W grade is assigned under the following circumstances:

1. During the first three weeks of a semester, or a comparable period for a shorter session, no grade is to be recorded.
2. From the fourth week through the conclusion of the semester, the student will receive a grade of W or F, depending upon the instructor's assessment of the student's performance.
3. A student who receives the grade W in more than 50% of his/her credit hours after having attempted more than 30 credit hours will not be allowed to attend classes at the College until he/she submits a letter to the Director of Admissions explaining why he/she should be allowed to continue his/her studies at the College.

APPENDIX I. Grading Policy

4. The Committee on Readmissions, which reviews the students' petitions, may take one of the following actions:

   a. The Committee may acknowledge extenuating circumstances and remove the hold on registration.

   b. It may sustain the hold on registration and ask the student to reapply for admission in a subsequent semester. Upon readmission, the student will be required to complete 75% of the credit hours for which he/she enrolls or be suspended for a period of one semester.

   c. The student may be placed on probationary status for one semester and be required to complete 75% of his/her credit hours during the ensuing semester. If the student fails to complete 75% of the credit hours for which he/she enrolls, the student will be suspended for a period of one semester.

**The use of the grade I embodies the following meanings.

1. The course work must be completed within a period of eight weeks of the ensuing semester. At the recommendation of the instructor and subject to the approval of the division chairperson, the limit of eight weeks may be extended for extenuating circumstances for a specific period of time.

2. An incomplete grade not completed in the allotted time shall be counted as an F grade in computing the student's cumulative grade point average.

***The use of the Y grade is restricted to 0-level courses, except for those courses which have been identified and approved by an academic division and the Office of Academic Affairs. The Y grade may be assigned by the instructor only after consultation with the student who agrees to these conditions.

1. The Y grade may be granted when, in judgment of the instructor, the student has shown sufficient progress but needs more time to complete the course objectives.

2. The student must re-enroll in the same course no later than the next regular semester in which the course is offered.

3. The student will be given the option of accepting the D or F grade.

4. The student is not expected to receive a Y grade twice in the same course.

APPENDIX I. Grading Policy

5. If a student is already registered for the next semester, the student must sign a Change of Roster form to re-enroll in the course for which a Y grade is given.

6. If the student has not completed the course by the end of the next regular session in which the course is offered, the Y grade shall be counted as an F grade in computing the student's cumulative grade point average.

Each student receives by mail a report of his/her grades at the close of the first eight weeks of the fall and spring semesters. The student receives a final report for the semester within one week of the close of each semester. If a student attends the summer session, the student will receive his/her grades at the end of the session in which he/she is enrolled.

A student who earns a grade of D or F in a course is permitted to repeat the course. In those cases where a course is no longer offered, the student should request permission from the Division Chairperson to substitute one course for another. Although both grades will appear on the student's permanent record, credit will be allowed only once for the single course. Only the grade and credit earned when the course is repeated will count in the student's cumulative grade point average.

Abstract of a Major Research Project
Presented to University of Pennsylvania in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Education

THE ACADEMIC PERFORMANCE AND PERSISTENCE PATTERN OF A SELECT GROUP OF DEVELOPMENTAL STUDENTS AT HARRISBURG AREA COMMUNITY COLLEGE

by
N. Lorraine Yovanovich Basonic
April 1982

Dissertation Committee - Dr. Kevin J. Lyons
Dr. Albert Oliver
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This case study analyzes and describes the academic performance and persistence pattern of a select group of 164 developmental students who matriculated at Harrisburg Area Community College in the academic years 1977/78, 1978/79 and 1979/80. The study provides: (1) a profile of the student population; (2) a description of their academic performance; (3) a comparison of those students who successfully completed the developmental courses and those who did not; (4) a description of their persistence; (5) the results of a Student Questionnaire; and (6) the results of personal interviews. Criteria of academic performance include grade point average, total credits earned, success in sequential courses, and receipt of a degree. Persistence is measured by the number of semesters completed by the students subsequent to the semester of matriculation, withdrawals, academic suspensions, and financial holds. Data were analyzed using frequencies and percentages.

The results of the study show that generally these students are not successful in completing the developmental courses. Of those who do complete the developmental sequence, few complete college-level

mathematics and English courses. Of the students who completed the developmental courses, 58.7 percent needed three or four semesters to do so. There was no difference in reading grade level at time of matriculation between students who completed the developmental courses and those who did not. First semester grade point average seemed to be an indicator of success in completing the developmental courses and was positively related to the persistence of the students. Of the students who left the College, 49.4 percent left by the end of the first year and 70.7 percent left by the end of the third semester. The College policies of academic suspension and financial hold impinged upon the students' decision to persist. These students were not academically successful. They had a pattern of low grade point averages, suspensions, failing grades and repeated courses.

This study provides (1) information for faculty and administrators of the Harrisburg Area Community College who are currently planning a change in the administrative and educational structure of the developmental program; (2) the College with a data base for further research; and (3) information for educators who are interested in the outcomes of developmental education.

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